PB-230 783

POLLUTION OF THE INTERSTATE WATERS OF THE CONNECTICUT RIVER AND ITS TRIBUTARIES, MASSACHUSETTS - CONNECTICUT. PROCEEDINGS OF CONFERENCE SESSION (2ND) HELD AT HARTFORD, CONNECTICUT ON SEPTEMBER 27, 1967

Federal Water Pollution Control Administration
Washington, D. C.

27 September 1967

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

PB 230 783

1.

SECOND SESSION

CONFERENCE

In the Matter of

Pollution of the Interstate

Waters of the Connecticut River

and its Tributaries

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

I N D E X

STATEMENT OF	PAGE
Murray Stein (Opening Statement)	5
Hon. Edward M. Kennedy	12
Hon. Abraham Ribicoff	28
Herbert R. Pahren	37
Mark Abelson	50
Thomas A. Schrader	54
Rolland B. Handley	58
John J. Curry	61
John I. Kirychuk	75
Alfred E. Peloquin	80
Thomas C. McMahon	93
Mrs. Bernard H. Flood	99
Murray Stein (Closing Statement)	105

Second Session of the Conference in the Matter of Pollution of the Interstate Waters of the Connecticut River and its Tributaries, convened at 9:30 a.m., on Wednesday, September 27, 1967, at The Statler Hilton, Hartford, Connecticut.

PRESIDING:

Mr. Murray Stein, Assistant Commissioner for Enforcement, Federal Water Pollution Control Administration, Department of the Interior, Washington, D. C.

CONFEREES:

Mr. Lester M. Klashman, Regional Director, Federal Water Pollution Control Administration, Northeast Region, Boston, Massachusetts.

Mr. Alfred E. Peloquin, Executive Secretary, New England Interstate Water Pollution Control Commission, Boston, Massachusetts.

Mr. John J. Curry, Acting Director of the State Water Resources Commission, Hartford, Connecticut.

Mr. Robert Yasi, Commissioner of Natural Resources, Commonweath of Massachusetts.

Mr. Thomas McMahon, Director, Division of Water Pollution Control, Department of Natural Resources, Commonwealth of Massachusetts.

PARTICIPANTS:

Herbert R. Pahren, Federal Water Pollution Control Administration, Boston Regional Office, Boston, Massachusetts.

Mark Abelson, Regional Coordinator, United States Department of the Interior, Boston, Massachusetts.

Thomas A. Schrader, Assistant Regional Director of the Northeast Region, Bureau of Sport Fisheries and Wildlife Service, Boston,Massachusetts.

Rolland B. Handley, Northeast Region Director, Bureau of Outdoor Recreation, Department of the Interior, Philadelphia, Pennsylvania.

John J. Curry, Acting Director, Water Resources Commission, Hartford, Connecticut.

John I. Kirychuk, State Chairman, Sportsmen's Commission on Pollution, New Britain, Connecticut.

Alfred E. Peloquin, Executive Secretary, New England Interstate Water Pollution Control Commission, Boston, Massachusetts.

Thomas C. McMahon, Director, Division of Water Pollution Control, Commonwealth of Massachusetts, Boston, Massachusetts.

Mrs. Bernard H. Flood, Director, League of Women Voters of Massachusetts, Boston, Massachusetts.

OTHERS IN ATTENDANCE:

Taggart P. Adams, Administrative Aid to Senator Ribicoff, Washington, D. C.

A. C. Addison, U. S. Department of Agriculture, Durham, New Hampshire.

George Adrian, Public Relations Director, James S. Minges and Associates, Farmington, Connecticut.

Frank Antonucci, Conservation Planner, City of Springfield, Springfield, Massachusetts.

John A. Baker, Assistant District Chief, U. S. Geological Survey, Hartford, Connecticut.

Barry Barents, News Manager, WHNB-TV, West Hartford, Connecticut.

George R. Barnes, Civil Engineer, U. S. Army Corps of Engineers, Waltham, Massachusetts.

Kenneth G. Barnhill, Principal Water Consultant, West Chester, Pennsylvania.

John S. Bether, Jr., Vice President, Metcalf & Eddy, Inc., Boston, Massachusetts.

Bill Borders, Reporter, The New York Times.

Mrs. Bertrand H. Brown, Connecticut League of Women Voters, Glastonbury, Connecticut.

Ralph W. Brown, Cadet, U. S. Coast Guard Academy, New London, Connecticut.

OTHERS IN ATTENDANCE:

Robert L. Burnap, Conservation Services, Inc., New Canaan, Connecticut.

Joseph M. Clark, Jr., Assistant Chief Engineer, Holyoke Water Power Company, Holyoke, Massachusetts.

William D. Clark, Associate Editor, The Enquirer, South Hudson, Connecticut.

George H. Craemer, Deputy Manager-Operations Engineer, Metropolitan District, Hartford, Connecticut.

Robert Curram, Civil Engineer, Curram Associates, Northampton, Massachusetts.

A. R. Cushman, Engineer, New England Power Company, Boston, Massachusetts.

Thomas C. DeRocco, Recreation Resource Specialist, Bureau of Outdoor Recreation, Philadelphia, Pennsylvania.

Thomas M. Donoghue, Editor, Air & Water News, New York City, New York.

E. R. Foster, Executive Director, Connecticut River Watershed Council, Greenfield, Massachusetts.

Carol B. Gardner, Program Analyst, Federal Water Pollution Control Administration, Needham Heights, Massachusetts.

OTHERS IN ATTENDANCE: (Continued)

George W. Gove, Engineer, National Council for Stream Improvement, Medford, Massachusetts.

Gilbert U. Gustafson, Deputy District Manager, The Metropolitan District, Hartford, Connecticut.

Richard J. Harrington, Assistant Engineer, City Engineer, Holyoke, Massachusetts.

Allyn Hemenway, Reporter, Hartford Times, Hartford, Connecticut.

Thomas Hoover, Research Chemist, United Aircraft Research Labs, East Hartford, Connecticut.

John Horton, District Chief, U. S.Geological Survey, Hartford, Connecticut.

Earl R. Howard, Executive Engineer, The Metropolitan District, Hartford, Connecticut.

Merwin E. Hupfer, Principal Sanitary Engineer, Connecticut Water Resource Commission, Hartford, Connecticut.

Stanley C. Joseph, Superintendent, Cape Cod National Seashore, South Wellfleet, Massachusetts.

F. W. Kittrell, Acting Chief, Coordinator, Federal Water Pollution Control Administration, Cincinnati, Ohio.

Milton W. Lammering, Sanitary Engineer, Federal Water Pollution Control Administration, Cincinnati, Ohio.

OTHERS IN ATTENDANCE: (Continued)

John W. Lebourveau, Assistant to Vice President, Yankee Atomic Electric Company, Boston, Massachusetts.

Thomas D. Lee, Consultant Chemist, Henry Souther Engineer, Hartford, Connecticut.

Robert L. Leonard, Assistant Professor, University of Connecticut, Storrs, Connecticut.

C. M. MacWilliam, Commissioner, Connecticut Water Resources Commission, Hartford, Connecticut.

Albert Machlin, Assistant Vice President, Hydrotechnic Corporation, New York, New York.

G. P. Malhotra, Research Engineer, Trowders Research Center, East Hartford, Connecticut.

Charles Marino, Senior Facility Engineer, Pratt & Whitney Aircraft, East Hartford, Connecticut.

Richard Martin, Water Resources Commission, Hartford, Connecticut.

James F. Millane, Public Relations, Holyoke Gas and Electric, Holyoke, Massachusetts.

Sheila M. Mullane, Reporter, Holyoke, Massachusetts Transcript, Holyoke, Massachusetts.

Walter Newman, Chief Northeast River Basins Compr., FWPCA, Needham, Massachusetts.

OTHERS IN ATTENDANCE: (Continued)

M. J. O'Donnell, Wast Disposal Supervisor, D. P. W., Holyoke, Massachusetts.

Stephen A. Otin, Senior-Chemical Engineer, Pratt & Whitney Aircraft, East Hartford, Connecticut.

C. P. Patterson, News Director, WHCT, Channel 18, Hartford, Connecticut.

Harold S. Peters, Executive Director, Farmington River Watershed Assocation, Avon, Connecticut.

Stuart C. Peterson, Chief, Construction Grants, New England, FWPCA.

C. M. Rogers, Information Officer, FWPCA, Washington, D. C.

Fred Ruggles, Hydrologist, U. S. Geological Survey, Hartford, Connecticut.

Clyde F. Shufelt, Engineer, Northeast River Basin Comprehensive, FWPCA, Needham Heights, Massachusetts.

Arnold Smith, Partner, Nobolsine Toth McPhee Association, New York, New York.

Peter E. Stangl, Special Technical Research Assistant, University of Connecticut, Storrs, Connecticut.

James M. Sweeney, Assistant Legal Counsel, Holyoke Gas & Electric Department, Holyoke, Massachusetts.

OTHERS IN ATTENDANCE: (Continued)

Floyd B. Taylor, Regional Program Chief-Water Supply, U. S. Public Health Service, Boston, Massachusetts.

Robert B. Taylor, Senior Sanitary Engineer, Commission Water Resources, Weatogue, Connecticut.

Chester E. Thomas, Jr., Hydrologist, U. S. Geological Survey, Hartford, Connecticut.

Michael Wheatley, United Press International, Hartford, Connecticut.

Isaac C. Wilburn, Utilities Superintendent, Monsanto Company, Springfield, Massachusetts.

William S. Wise, Consultant, Charles Maguire Associates, Wethersfield, Connecticut.

Jack Youngs, Chief Photographer, WNCH-TV, New Haven, Connecticut.

Arthur Zalkan, Feature Writer, Springfield Daily News, Springfield, Massachusetts.

P R O C E E D I N G S

OPENING STATEMENT

BY

MR. MURRAY STEIN

MR. STEIN: The conference is open.

The second session of the conference in the matter of pollution of the interstate waters of the Connecticut River and its tributaries is being held under the provisions of the Federal Water Pollution Control Act.

Under the provisions of the Act, the Secretary of the Interior is authorized to call a conference of this type when on the basis of reports, surveys, or studies, he has reason to believe that pollution of interstate waters subject to abatement under the Federal Act is occurring.

The purpose of the conference is to bring together the State and interstate water pollution control agencies, representatives of the United States Department of the Interior, and other interested parties to review the existing situation and the progress which has been made, to lay a basis for future action by all parties

concerned, and to give the States, Localities, and industries an opportunity to take any indicated remedial action under State and local law.

The conference technique is rather an old one. It is used informally by many State agencies in the normal conduct of their business in the field of water pollution control. I know both these States use it. As a matter of fact, just before the conference, I ran into Mr. William Wise of Connecticut who is an old hand in this business. Maybe we can all learn from him. He has been in this business long before any of us, and he probably was using this conference technique long before many of us heard of water pollution control.

The conference system was proposed by the United States Supreme Court as long ago as 1921, in the famous case of New York versus New Jersey, involving interstate pollution.

I would like to quote from this decision:

"We cannot withhold the suggestion, inspired by the consideration of this case, that the

grave problem of sewage disposal by the large and growing population living on the shores of New York Bay is one more readily to be most wisely solved by cooperative study and by conference and mutual concession on the part of representatives of the States so vitally interested in it than by proceedings in any court however constituted."

We strongly support the conference technique and we measure our success by the problems which are solved at the conference table, rather than in court.

The first session of this conference was held on December 2, 1963.

At the first session, the conferees agreed to the following conclusions and recommendations:

"1. Suspended solids from sewage and industrial waste cover the Connecticut River bottom interfering with fish spawning and the development of aquatic life.

"2. Sludge deposits have damaged the aesthetic quality of the river due to the visible evidences of pollution such as sludge bubbling to the surface, cloudy and gray appearances of the water in the vicinity of

sewage and industrial waste discharges, intermittent colors from industrial wastes, small grease balls, intermittent oil films, etc.

"3. Cognizance is taken of the cooperation and active programs of both States and the New England Interstate Water Pollution Control Commission in abating pollution of the Connecticut River.

"4. Cognizance is further taken of the fact that the main stem of the Connecticut River in the area concerned in both States was classified in 1955.

"5. Massachusetts and Connecticut have indicated that their municipal pollution abatement programs call for municipal waste treatment with adequate chlorination for all municipal wastes during the recreational season, May 1 to September 15. The Massachusetts schedule is to have pollution abatement programs completed as follows: in 1964, Montague; in 1965, Northfield, Greenfield, Holyoke, Ware, Warren; in 1966, Hatfield, Easthampton, Chicopee, Templeton, Royalston, Athol, Orange, Erving, Monroe, Buckland, Shelburne, Hardwick, Brookfield, Palmer, Monson, Wilbraham, Chester, Huntington, Russell, Westfield. Connecticut indicated that remedial facilities would not be completed for Warehouse Point until 1967. A commensurate program for abatement of pollution caused by

municipal wastes will be established by Connecticut.

"6. Wastes from industries and institutions in both Massachusetts and Connecticut will be incorporated with municipal treatment facilities or will be treated by separate facilities so as to meet the classification requirements of both States. Separate industrial waste treatment facilities will be constructed and placed in operation in accordance with the time schedule established for municipalities.

MR. YASI: Mr. Stein, do you plan to read the whole statement?

MR. STEIN: No.

MR. YASI: All right.

MR. STEIN: "7. The State conferees volunteered that yearly progress reports would be prepared by Massachusetts and Connecticut in cooperation with the interstate agency and the Department of Health, Education, and Welfare. The first progress report will be due January 1, 1965."

This session of the conference was called for the purpose of reviewing the status of the recommended pollution abatement program adopted at the first conference session.

As specified in section 10 of the Federal Water Pollution Control Act, the Secretary of the Interior has notified the official State water pollution control agencies of

Massachusetts and Connecticut and the New England Interstate Water Pollution Control Commission of this conference. This conference is between the official State and interstate agencies and the United States Department of the Interior. The Massachusetts Department of Natural Resources will be represented by Mr. Robert Yasi, Commissioner of Natural Resources. The Connecticut Water Resources Commission will be represented by Mr. John J. Curry. The representative of the New England Interstate Water Pollution Control Commission is Mr. Alfred E. Peloquin, and Mr. Lester Klashman has been designed as conferee for the Federal Government.

My name is Murray Stein. I am from hearquarters of the Federal Water Pollution Control Administration, in Washington, D. C. and the representative of Secretary Udall.

The parties to this conference are the representatives of the State and interstate agencies and the United States Department of the Interior. Participation in the conference will be open to representatives and invitees of these agencies and such persons as inform me that they wish to present statements. However, only the representatives of Massachusetts, Connecticut, the New England Interstate Commission and the United States Department of the Interior constitute the conferees.

Both the State and Federal governments have responsibilities in dealing with water pollution control

problems. The Federal Water Pollution Control Act declares that the States have primary rights and responsibilities for taking action to abate and control pollution. Consistent with this, we are charged by law to encourage the States in these activities.

At the same time, the Secretary of the Interior is charged by law with specific responsibilities in the field of water pollution control in connection with pollution of interstate and navigable waters. The Federal Water Pollution Control Act provides that pollution of interstate or navigable waters, whether the matter causing or contributing to the pollution is discharged directly into such waters, or reaches such waters after discharge into a tributary, which endangers the health or welfare of any persons, shall be subject to abatement.

Now a word about the procedures governing the conduct of the conference. The conferees will be called upon to make statements. The conferees, in addition, may call upon participants whom they have invited to the conference to make statements. In addition, we will call on other interested individuals who wish to present statements. At the conclusion of each statement, the conferees will be given an opportunity to comment or ask questions, and I may ask a question or two. This procedure

has proven effective in the past in reaching equitable solutions.

We are making a transcript, a verbatim transcript, of the conference. This will be made available to you through your State agencies and, generally speaking, it takes about three or four months for this to come out in printed form. If you wish a record beforehand, you can check with the Reporter, Mr. Blaustein, who is a contract reporter, and make your own arrangements with him.

With that, we would like to call for statements from real friends of the program and, firstly I would like to call on Senator Edward Kennedy of Massachusetts.

STATEMENT OF HONORABLE EDWARD M. KENNEDY, UNITED STATES SENATOR, COMMONWEALTH OF MASSACHUSETTS

SEN. KENNEDY: Thank you very much, Mr. Chairman and the conferees and all those that are interested in this matter of considerable importance to us.

First of all, let me say what a pleasure it is for me to be here in Hartford this morning, at the Second Session of the Conference on Pollution of the

Massachusetts and Connecticut portions of the Connecticut River.

Mr. Chairman, would it be possible to include my statement in its entirety in the record as read?

MR. STEIN: Without objection the statement will be entered into the record as if read.

SEN. KENNEDY: I was unable to attend the First Session, held on December 2, 1963, but I did send a statement which the presiding officer, Mr. Murray Stein, was kind enough to read for me. I am glad to see Mr. Stein here today, once again as presiding officer, and I think we are all fortunate that a man as dedicated and as knowledgeable as he continues to guide Federal water pollution control enforcement efforts.

The Connecticut River deserves the close attention of Mr. Stein, of his counterparts in the states and towns, and indeed of all of us. The people of Central and Western Massachusetts and of nearly all of Connecticut have, in the Connecticut River, a unique natural and recreational resource. It is within a few hours drive of many millions of people. It has a vast potential; for fishing, for boating, for swimming, for general outdoor life, and for forming the nucleus of a booming vacation industry.

I think it highly regrettable that this resource is underdeveloped and underutilized, and that we are forced to speak of the "potential" of the Connecticut River. Instead, we should, today, be able to speak with pride of a clean River, where children can swim, fisherman can catch many varieties of fish, and boaters can cruise or sail undisturbed.

This is not too much to ask. Three hundred and fifty years ago, in 1614, when Adrian Block sailed his square-rigger up the "Great River," as he described it in his log, the Connecticut swarmed with thirty-pound salmon, shad, trout, bass, and many other species. Water birds abounded, feeding on the fish and aquatic plants. During the Revolutionary War, more than 150 years after Adrian Block first mapped the Connecticut, many thousands of barrels of shad were taken out of the River and put up for our troops.

What happened to this vast natural abundance is a well-known story. The industrial revolution brought factories to the river's edge, and brought men who made cities to work the factories. The factories poured industrial and chemical wastes into the River, the cities' human and solid wastes. As industries and cities grew, the amount and toxicity of the pollution they produced

likewise grew in amount until it reached the stage at which it killed the fish and aquatic plants, stained the waters, drove away the birds and dirtied the banks.

In short, the Connecticut River became an open sewer.

Unfortunately, it is still so today. A guide to the Connecticut River, for example, published sixteen months ago, says this about a stretch of the River near Greenfield and Turner's Falls in Massachusetts:

> "This stretch should be run only by experienced white water enthusiasts. During low water, the river can be followed with short lifts or by lining down as far as the power station. However, paper mill effluent makes the trip rather unpleasant."

This is not the kind of description, I submit, calculated to raise enthusiasm among canoeists, or anyone, for journeying to the Connecticut River.

There is only one way to clean up the Connecticut River, consistent with the needs of the cities and industries dotting its banks and that is to adopt, as policy, the statement that those who use the River not be allowed to abuse it. The pressure to pollute, in the past, was economic: Americans were concerned with

development of industry and raising the standard of living, and rivers, whose capacity to absorb wastes was considered inexhaustible, were thought of as convenient dumping places.

We have now learned that our rivers do not have an unlimited capacity to accept the refuse of our society, either biologically or esthetically.

Two years ago, the First Session of this Conference produced a number of findings and recommendations relating to the pollution of the Connecticut River. The first two findings bear repeating:

> "1. Suspended solids from sewage and industrial waste cover the Connecticut River bottom, interfering with fish spawning and the development of aquatic life.
>
> 2. Sludge deposits have damaged the esthetic quality of the River due to the visible evidences of pollution such as sludge bubbling to the surface, cloudy and gray appearances of the water in the vicinity of sewage and industrial waste discharges, intermittent colors from industrial dye wastes, small grease balls, intermittent oil films, etc."

These official findings of fact confirm what the summary

of the testimony presented to the First Conference states:

> "Locally, the Connecticut River has the reputation of being a dirty, polluted stream, not fit for human contact."

These findings led the Conferees to make a number of recommendations, broken down as to source of pollution. It is important to note, at this point, that part of the justification for holding the First Session of this Conference lay in the interstate nature of the pollution of the Connecticut River. Thus in the words of Mr. Francis W. Kittrell, representing the Secretary of Health, Education, and Welfare at the First Session:

> "On the basis of reports that gave him reason to believe that pollution of the Connecticut River in Massachusetts was endangering the health or welfare of persons in Connecticut, the Secretary of Health, Education, and Welfare called a conference . . . under the provisions of Section 8 of the Water Pollution Control Act."

This interstate nature of the pollution -- that is, that pollution originating in Massachusetts bears adversely on downstream communities in Connecticut -- is clearly evident in the sources of pollution listed for

the 62-mile stretch of the Connecticut now under consideration. Of the 38 sources of pollution listed, in the Interior Department publication prepared for this conference, 32 are in Massachusetts.

As the Senior Senator from Massachusetts, I of course deplore this situation. I would so do, too, as a private citizen. But, I am happy to note that Massachusetts is moving toward halting the pollution.

At the conclusion of the First Session in 1963, the Secretary of Health, Education, and Welfare made a number of specific recommendations as to what action each of the polluters should take to halt their pollution of the River. These recommendations applied both to towns and to industries. Of the total 38 polluters, only five are in compliance with these recommendations and all five are in Massachusetts. These five, all towns, are Amherst, Northampton, Easthampton, Agawam, and East Longmeadow. The leadership of these towns has, in this matter of water pollution, been enlightened, and they deserve the acclaim of all of us.

There remains the problem, however, of what to do about the remaining 33 major polluters of the Connecticut listed by the Interior Department. Eighteen of the polluters are private industries, such as paper

companies or chemical companies. The remaining fifteen are towns, whose treatment facilities are inadequate or nonexistent.

Since the First Session of the Conference, major new Federal and State water pollution control programs have been approved.

The Water Quality Act of 1965 required that water purity standards be established and enforced for interstate waters, and gives the Federal Government power to do this if the States do not. Massachusetts, I am happy to note, has drawn up standards under the terms of this Act, and they have been approved by the Department of the Interior. This Conference today, the first of three mandatory steps in the pollution abatement process, will give the Department of the Interior the information it needs to determine whether to move ahead with formal hearings and the initiation of legal proceedings leading to a Federal court injunction against those polluters who do not meet the standards.

The second major legislative item is the Clean Waters Restoration Act of 1966. This bill, enacted eleven months ago, marks a major milestone in the Federal commitment to clean rivers and lakes. The bill authorizes almost four billion dollars, spread over fiscal

years 1967-1971, for a wide range of activities, such as construction of treatment facilities, research and demonstration projects, and river basin planning. Unfortunately, the Administration's budget request for this year is nearly 50 per cent less than the authorized amount for the water pollution control program, 250 million dollars instead of 450 million dollars, and the House Committee has approved this level of spending.

This penny-pinching in the present is, to my mind, shortchanging the future.

Local planning for water pollution control, and state planning as well, has been premised on a Federal budget at least approaching that authorized just a year ago, and now, if the proposed budget level is accepted, the timing of these carefully-laid local and state plans may be completely upset. I am, consequently, well aware that the slow progress to date may well be due in part to discouragement with the willingness of the Federal Government to live up to its proud promises.

In this regard, the Governor of Massachusetts has joined other Governors in urging the Senate to raise this level to that authorized last year. In a communication to the Senate Public Works Committee, Governor Volpe said:

"Because of promise of Federal participation in our program, we were able to pass one of the first and most far-reaching water pollution control bills in Massachusetts. Other states which do not already have operable programs will be discouraged if the full amount authorized by Congress is not appropriated."

There are a number of other Federal programs designed to help municipalities meet the large costs of waste collection and treatment facilities. These programs are badly needed. The Water and Sewer Program of the Department of Housing and Urban Development, for example, with an appropriation last year of 100 million dollars, has a backlog of considerably over one billion dollars in applications. For next year, the Senate last week approved a 65 million dollar increase in appropriations for this program. But the demand from cities and towns all across the country for just this one program, is a clear indication that waste treatment facilities are needed, and that the mayors and city councils are ready and willing to move quickly towards reducing pollution.

In short, there is a major Federal effort under way to help states and towns clean up their rivers

and lakes. And these governments, hard pressed financially, need this help. But there are examples that the Federal Government is not doing all it can.

Westover Air Force Base, for example, is listed as a polluter of the Connecticut River. I find this situation incredible -- one arm of the Government urging a clean up of the river, and paying part of the cost, while another arm dirties the River. Further, while in 1963, the Secretary of Health, Education, and Welfare made a specific recommendation as to the type of secondary treatment needed to render the discharge from Westover harmless, there has, to date, been no compliance with the Secretary's recommendation. I will, upon my return to Washington, contact the Secretary of Defense and urge him to put an immediate end to the sewage -- equivalent in amount to that produced by nearly six thousand people per day -- being dumped into the River by Westover Air Force Base.

The industries discharging wastes into the Connecticut River present a more difficult problem, one not yet resolved. The seventeen plants listed as polluters -- nine paper mills, one textile mill, two metal working plants, three synthetic chemical plants, a rendering plant, and a brewery -- discharge wastes, every day, equivalent

to that produced by a city of 120,000 people. None of the plants has, to date, complied in any way with the recommendations of the Government.

Of the 17 industries on the River, 12 have no waste treatment facilities at all -- their industrial wastes are just dumped into the River, mindlessly and with consideration only for operating as cheaply as possible. These twelve companies with no treatment facilities at all are: Texon, Inc. of South Hadley; Brown Paper Company; Franklin Paper Company; Whiting and Company, all of Holyoke; Premoid Corporation of West Springfield; Shawinigan Resins Corp. and Thal Dying Company of Chicopee; and Foster Machine Company, Stevens Paper Mills, Inc., and Columbia Manufacturing Company of Westfield.

I would like to point out that these twelve companies are included in the Interior Department list because their pollution of the River has occurred over a long period of time, even though the operation of one or more plants may have been interrupted occasionally by shutdowns.

I urge the management of these companies to look at what they are doing to the heritage we must leave behind for our children -- and if they say they cannot bear the costs of installing at least minimal treatment

facilities, then I urge them to look at the five companies which have already borne the costs. Then, let those who are doing nothing answer.

Further, I urge the management of these companies to look at the clear intent of Congress as experssed in the Water Quality Act and the reports accompanying it. The Report says:

> "No more important single problem faces this country today than the problem of 'good water.' Water is our greatest single natural resource. The issue of pure water must be settled now for the benefit not only of this generation but for untold generations to come. The need for good quality water for all of our nation's uses -- public and private -- is a paramount one."

Translating this policy into law, the Congress then empowered courts to enter judgments against those who refused to comply with water quality standards. The intent of Congress is clear: pollution should be stopped, and stopped if necessary by court order.

A number of other approaches to this problem of industrial pollution have been suggested. Some have urged the allowance of special tax incentives for the

cost of installing waste treatment facilities. Others, taking the opposite tack, have urged the creation of a special tax on untreated waste discharges, as in many West European countries. Still others have urged the authorization of low-interest rate, Federal loans for costs of treatment facilities.

But whatever course is taken, it is clear that voluntary compliance with Federal standards will be hard to win. Since so much is at stake, I am in favor of some sort of economic incentive to industry, coupled with the enforcement proceedings, and will continue to work in the Senate toward this end.

In 1961, President Kennedy said in a Special Message to Congress that:

> "The pollution of our water has reached proportions of a national disgrace. It endangers our health. It limits our business opportunities. It destroys recreation."

President Johnson reaffirmed this theme in 1966 in his Message to the Congress on natural beauty:

> "Let us proclaim a creed to preserve our nature and natural heritage with rights and the duties to respect those rights: the right to clean water -- and the duty not to

pollute it. These rights assert that no person, or company, or government has a right in this day and age to pollute, to abuse resources, or to waste our common heritage."

I consider restoring the Connecticut River to its once-renowned position as an abundant source of food, and a joyous place to be an important task for the towns and cities on its banks. Most of the cities and towns sprung up on the River because they depended upon it, whether because they were transportation hubs or because they needed the power or water it offers. Increasingly, these tons and cities have turned their backs on the River.

But this need not be so. If the River were clean, if it brought pleasure instead of disgust, then people would come to it. They don't now, except in limited numbers.

It is, then, for three reasons that we must clean up the Connecticut River. First, because if we do so, then we can enjoy a resource which we are now forced, in disgust, to turn away from. Second, because then we will leave for our children a mark of our concern for the beauties of nature. And third, because cleaning the River will draw people to it, creating an entirely

new business in the area.

Gerard Manley Hopkins asked a question in one of his poems:

"What would the world be, once bereft of wet and of wilderness?"

Then he answered the question with a plea:

"Let them be left . . . "

I subscribe to that plea.

Mr. Chairman, I appreciate your courtesy in permitting me to speak this morning and also for your courtesy which you have extended to me when I was unable to be here at your first meeting in delivering my statement at that time and I appreciate the attention of the conferees themselves which they have given to me this morning.

MR. STEIN: Thank you very much for a detailed and comprehensive statement. I know you have a tight schedule, Senator, and I recall going around Massachusetts with Secretary Udall a little while ago looking at your general pollution problem.

Thank you, sir. We will stand recessed for about two minutes.

(A short recess was then taken.)

MR. STEIN: At this point we will have a representative of one of Connecticut's most distinguished citizens, my former boss -- probably a lot of people here worked for him, too -- and one of the fathers of the Federal program for clean air and clean water, Senator Ribicoff. He has always been vitally interested in this problem, has worked for clean water, was instrumental in providing the framework of the present Federal program, and I know when he was Secretary of Health, Education, and Welfare, the program was in that Department. His door was always open to the problems and he constantly gave his attention to this program.

We would like to call on Mr. Adams for Senator Ribicoff and have Mr. Adams make a statement.

STATEMENT OF HONORABLE ABRAHAM
RIBICOFF, UNITED STATES SENATOR,
STATE OF CONNECTICUT, READ BY
MR. TAGGERT ADAMS

MR. ADAMS: Thank you very much, Mr. Chairman. I would first like to read a letter from Senator Ribicoff addressed to Mr. Murray Stein, dated September 26, 1967

"Dear Murray: Together with Secretary Udall,

we set September 27, as a date for the re-convening of the Connecticut River Pollution Conference. It was my hope that the Senate schedule would permit me to personally present a statement.

"I now find that critical votes on the poverty measure which are most important to help solve the crisis of our cities, including those in Connecticut, plus Senate Committee business, make it impossible for me to leave Washington. This I regret.

"I have prepared a statement and have asked Taggert Adams of my staff to read it in my behalf. I strongly urge that a definite and firm timetable of action be formulated.

"May I take this opportunity to thank Secretary Udall, you, and your entire staff for the dedicated efforts in cleaning up water pollution throughout our nation and especially on the Connecticut River.

"Sincerely, /s/ Abe,

"Abe Ribicoff."

MR. STEIN: Thank you. Do you want to read your statement or submit it for the record?

MR. ADAMS: I will read the statement.

MR. STEIN: I wish you would convey our thanks to the Senator and I know that this program has always been of interest to him and particularly as it relates to Connecticut and the Connecticut River.

As a matter of fact, Senator Ribicoff called last night and I had a long conversation with him on the meeting. He really regrets that he could not come. As a matter of fact, he was the one who originally asked for the reconvening of the conference and, as Secretary Udall said when he got this, "I am sorry I didn't think of this first." But the Senator is very concerned with the problem and both he and Senator Kennedy, among others, are watchdogs and keep after us all the time, asking questions of us.

Would you go on?

MR. ADAMS: My name is Taggert Adams. I work for the Washington office of Senator Ribicoff. The following is a statement by Senator Abraham Ribicoff:

"Four years ago we had as our objective the cleaning up of the Connecticut River by the end of 1967.

To achieve this, three key actions were necessary: First, both Massachusetts and Connecticut would treat municipal pollution with adequate chlorination during the recreational season. Massachusetts even

established a schedule to end municipal pollution by the end of 1967, and Connecticut said it would follow suit.

Second, both States undertook to treat industrial and municipal wastes according to classification requirements. Separate industrial waste treatment facilities were to be constructed in accordance with the schedule for municipalities.

Third, annual progress reports were to be filed by the States beginning January 1, 1965.

Yet, too little progress has been made in halting the pollution of the Connecticut River.

The Water Pollution Control Administration reports that of the 38 municipal and industrial polluters along the Massachusetts and Connecticut sections of the River, only five are in compliance with the Secretary's previous recommendations for abatement and they need additional or new facilities now. Seventeen polluters have no waste control facilities at all.

But, despite the delay, prospects for future improvement are excellent. We have new tools to work with and fresh resolve. At the Federal level we have enacted two major pieces of legislation to upgrade the purity of our waters. The Water Quality Act of 1965 required the States to establish water quality standards for interstate

and coastal waters by July 1967. Last year we passed the Clean Waters Restoration Act authorizing $3.9 billion for grants for municipal sewage treatment facilities. I now have urged the Congress to appropriate the full $450 million authorized for this year.

Industry also has a responsibility to curb pollution. But we cannot expect the private sector to bear the entire cost of this expensive equipment. Since the benefits of waste treatment accrue to the entire public, it is only fair that the public share the burden. Accordingly, I have introduced legislation to allow businesses to write off the cost of pollution control equipment over a three-year period. This proposal has wide support. I am hopeful the 90th Congress will act on it.

At the State level, under the leadership of Governor John Dempsey, Connecticut has done much: It has submitted proposed water quality standards to the Interior Department and has enacted a far-reaching Water Pollution Control law. It takes full advantage of the provisions of the Federal law. Connecticut Public Act 57 passed in 1967 authorizes a $150 million in bonds for grants to municipalities, including the pre-funding of the Federal share of treatment facilities. It also permits

an accelerated write-off against State corporation taxes for the cost of industrial waste plants. This is an excellent blueprint for cleaning Connecticut's waters.

The Connecticut Water Resources Commission has moved to secure compliance with the law. All of the six Connecticut polluters on the River have received orders to abate their pollution by 1972. The orders require secondary treatment and chlorination of all municipal wastes.

Massachusetts is keeping pace. Its water quality standards have been approved by Secretary Udall. The State schedule calls for full compliance on the Connecticut River by the end of 1974.

These actions are encouraging. Target dates have been set. Our goal should be water suitable for swimming.

We need swimable quality water if we are to realize the benefits of the Connecticut River National Recreation Area I have proposed. The feasibility study for this project has been under way for nearly a year. It will take almost another year to complete. But already we know that bathing, fishing and other recreational activities will be seriously limited unless we assure high quality water on the River.

Hon. Abraham Ribicoff

The Connecticut River can be the focal point of a magnificent recreation area for all of New England. In its present condition, it is used and enjoyed by many. The New England Business Review, published by the Federal Reserve Bank in Boston, estimated that in 1966 over six million days were spent fishing and hunting in the Connecticut River Valley. In addition, there were five million visits to national forests and over a million trips to the 12 Corps of Engineers Reservoirs. The River plays an important part in these activities.

The Bank further reports that with today's population there is a potential for 80 million recreation activity days annually. Since Connecticut's population alone is expected to double to six million by the year 2000, we can readily see that recreation needs will sharply increase in the coming years. The River must be restored if we are to satisfy these needs.

We have an opportunity to provide a place of rest and relaxation where the people of the region can behold the glory of nature and partake of its rejuvenating spirit. The job ahead challenges us to apply our technology and mobilize our resources. We cannot fail, for we have an obligation to future generations to protect and preserve the River. We are the trustees of

the River for them.

The time for talk is past. Now is the time for action. Today we must bind ourselves to clean the River and fix a definite timetable for action. We cannot settle for less. If we join together as citizens, State and local governments and the Federal Government, we can ahieve the goal."

MR. STEIN: Thank you, Mr. Adams, for an excellent statement of which you can convey our thanks to Senator Ribicoff.

There is one key point that I think we might call to the attention of the people here and that is the proposal of the Senator for a tax writeoff for industry which will result in an accelerated amortization. Generally speaking, there has been some sentiment in the Congress to that by Congressmen and Senators who are interested in water pollution. One problem is that the Public Works Committee deals with water pollution laws and any legislation like this must come before the Finance Committee in the Senate and the Ways and Means Committee in the House.

Senator Ribicoff is on the Finance Committee. He has also had experience as Governor and head of the State of Connecticut. With this background, as well as being a Cabinet officer, he surely

knows the problems. When he went into the Senate he introduced legislation to do this and I think the vote was pretty overwhelming because the tax bill was drawn up and he was defeated in the Committee by something like a 20 to 1 or 20 to 2 or 3 vote but he took this amendment on the floor of the Senate and I think here he picked up about 20 votes and evidently he is persisting.

So, I think for the industrial people the realization should be here that in the Congress I think Senator Ribicoff is the champion and is the key man on this industrial tax incentive measure.

MR. ADAMS: The Senator would like to thank you, Mr. Chairman, for giving me a chance to present his views.

MR. STEIN: Thank you. At this point we will stand recessed for ten minutes while the conferees work out our procedural schedule.

(A short recess was then taken.)

MR. STEIN: May we reconvene? We will now have the Federal presentation by Mr. Klashman.

MR. KLASHMAN: Thank you, Mr. Stein. I would like to first call on Mr. Herb Pahren, Chief of our Technical Services Program in our Northeast Region of the Federal Water Pollution Control Administration

to give a brief statement. Mr. Pahren.

STATEMENT OF MR. HERBERT R. PAHREN, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, BOSTON REGIONAL OFFICE

MR. PAHREN: Mr. Chairman, I will not read the tables but I would like the entire report entered into the record as if read.

MR. STEIN: Without objection, the entire report will be entered into the record as if read.

MR. YASI: Mr. Stein, I would like it noted, please, that we will take one of these two matters up in executive session as soon as we finish.

MR. STEIN: Yes.

MR. YASI: I have no objection to it going into the record at this point.

MR. STEIN: Let me explain the procedure. As far as the Chairman is concerned, anything that anyone feels is relevant, we will enter into the record as long as the material is not too prolix. In other words, we are not going to fill up the record with a volume of the

encyclopedia, but other than that, unless there is objection from the other people, we will put it in the record.

Mr. Pahren.

MR. PAHREN: On the basis of reports, surveys, or studies, the Secretary of Health, Education, and Welfare, having reason to believe that pollution of the Connecticut River and its tributaries caused by discharges of untreated and inadequately treated sewage and industrial wastes in Massachusetts was endangering the health or welfare of persons in Connecticut, a state other then that in which the discharges originate, called a conference in the matter of pollution of the interstate waters of the Connecticut River and its tributaries. The conference was held December 2, 1963, in Hartford, Connecticut.

The Secretary of the Interior* called this second session of the conference on the Connecticut River to consider progress made in abatement of pollution since the first session.

Conferees representing the State water pollution control agencies of Connecticut and Massachusetts, the New England Interstate Water Pollution Control Commission, and the United States Department of Health,

*Reorganization has transferred the water pollution control activities from the Department of Health, Education, and Welfare, Public Health Service, to the Department of the Interior, Federal Water Pollution Control Administration.

Education, and Welfare attended the first session of the conference.

The conferees agreed to the conclusions and recommendations read by Mr. Stein previously.

1. Suspended solids from sewage and industrial waste cover the Connecticut River bottom interfering with fish spawning and the development of aquatic life.
2. Sludge deposits have damaged the esthetic quality of the river due to the visible evidences of pollution such as sludge bubbling to the surface, cloudy and gray appearances of the water in the vicinity of sewage and industrial waste discharges, intermittent colors from industrial dye wastes, small grease balls, intermittent oil films, etc.
3. Cognizance is taken of the cooperation and active programs of both States and the New England Interstate Water Pollution Control Commission in abating pollution of the Connecticut River.
4. Cognizance is further taken of the fact that the main stem of the Connecticut River in the area concerned in both States was

classified in 1955.

5. Massachusetts and Connecticut have indicated that their municipal pollution abatement programs call for municipal waste treatment with adequate chlorination for all municipal wastes during the recreational season, May 1 to September 15. The Massachusetts schedule is to have pollution abatement programs completed as follows: in 1964, Montague; in 1965, Northfield, Greenfield, Holyoke, Ware, Warren; in 1966, Hatfield, Easthampton, Chicopee, Templeton, Royalston, Athol, Orange, Erving, Monroe, Buckland, Shelburne, Hardwick, Brookfield, Palmer, Monson, Wilbraham, Chester, Huntington, Russell, Westfield. Connecticut indicated that remedial facilities would not be completed for Warehouse Point until 1967. A commensurate program for abatement of pollution caused by municipal wastes will be established by Connecticut.

6. Wastes from industries and institutions in both Massachusetts and Connecticut will be incorporated with municipal treatment facilities or will be treated by separate facilities so

as to meet the classification requirements of both States. Separate industrial waste treatment facilities will be constructed and placed in operation in accordance with the time schedule established for municipalities.

7. The State conferees volunteered that yearly progress reports would be prepared by Massachusetts and Connecticut in cooperation with the interstate agency and the Department of Health, Education, and Welfare. The first progress report will be due January 1, 1965.

The Connecticut River is the major interstate stream of the New England States. Rising in the northern tip of New Hampshire near the Canadian border, it flows south for nearly 400 miles, joining the Atlantic Ocean in Long Island Sound. It forms the boundary between New Hampshire and Vermont and travels across Massachusetts and Connecticut.

Canals have been constructed to permit navigation and to conduct water to manufacturing plants for production of power and for use in industrial processes. Other means of transportation have largely replaced

navigation, but the canals still serve as sources of power and as water supplies for industries.

The major area considered at the first and second conference sessions is the 62-mile reach from Hatfield, Massachusetts, to the Rocky Hill-South Glastonbury Ferry, twelve miles below Hartford, Connecticut. Thirty-eight miles of the reach are impounded by the Holyoke and Enfield Dams, eight miles are free flowing, and sixteen miles are subject to tidal fluctuation. Also covered are portions of two major tributaries which receive sewage and industrial wastes in Massachusetts and enter Connecticut near Springfield -- the Chicopee River from below Wilbraham to its mouth,(12.5 miles) and the Westfield River from Westfield to its mouth,(11.5 miles).

Viewed from a distance, the Connecticut is a beautiful river, flowing leisurely past wooded banks and open meadows. Its quiet impounded areas invite pleasure boating, swimming, and skiing, while its free flowing reaches are a clear challenge to canoeists and fishermen. However, when viewed at close range, it is not always so lovely. Locally, the Connecticut River has the reputation of being a dirty, polluted stream, not fit for human contact.

Along the three streams in Massachusetts,

thirteen towns, one village, and an Air Force Base discharge sewage having an estimated population equivalent of 324,000. One population equivalent may be defined as the qualtity of biochemical oxygen demand contributed in the untreated wastes from one person in one day. Within the same area, nine paper mills, one textile mill, two metal working plants, three synthetic chemical plants, a rendering plant, and a brewery discharge wastes to the streams. Together, the industries have an estimated biochemical oxygen demand population equivalent of 120,000.

Along the main river in Connecticut are five jurisdictions discharging wastes having an estimated population equivalent of 218,000. Only one industry discharges a significant quantity of waste to the Connecticut River above the Hartford area -- a paper mill with an estimated population equivalent of about 18,000.

The total oxygen demand population equivalent discharged to the reach under consideration is 542,000, of which industrial wastes account for 138,000.

As members of the New England Interstate Water Pollution Control Commission, Massachusetts and Connecticut in 1955 classified the water quality of the Connecticut River in the two States. As the time the classification was adopted, five of the towns along the

Massachusetts reach of the river had partial sewage treatment. In the eight years between the adoption date and the first session of the Connecticut conference, three additional towns, with a sewered population of 55,500, provided treatment, and two of the original plants were rebuilt or replaced. Eight jurisdictions with a sewered population of 146,200 were still without treatment.

The Connecticut River was reclassified by the two States in June 1967.

This 62-mile reach of the Connecticut River is used principally for industrial water supply, recreation, power production, and waste disposal.

The Connecticut River provides such an abundance of water for industrial supply in this reach that most industries are said not to bother with records of water use. However, the Pratt and Whitney Division, United Aircraft Corporation, at East Hartford, alone uses 720 million gallons of water per day for cooling.

Pleasure boating is increasing in popularity as a water sport but has not developed on the Connecticut River as rapidly as it has throughout the rest of the Nation.

Between Enfield Dam and Hartford the Connecticut River supports good populations of a variety of game

and coarse fishes. There has been only limited angling for any type of fish other than shad. A former chief of the Division of Fisheries, Connecticut Board of Fisheries and Game, puzzled by the limited use of this excellent fishery, hypothesized that: "It may be possible that many sportsmen assodate the river with gross pollution and uncleanliness and feel it unlikely to consider sport fishing in such an environment." The most popular recreational use is shad fishing during the spring run between late April through early June of this anadromous fish. Fortunately, adult shad, which are intolerant of poor water quality, ascend the river when flows are high and are, thus, not subjected to the most critical effects of pollution.

Only one bathing beach was found in this 62-mile reach, although swimming does take place throughout its length on an unorganized basis.

Water skiing has not become popular as rapidly along the Connecticut River as it has on other waters, but there has been a start, and its popularity will increase.

Commercial shad fishing is permitted in the Connecticut River in Connecticut but not in Massachusetts. During the ten-year period from 1953 through 1962,

commercial fishermen netted an average of 98,200 shad yearly.

Navigation on the Connecticut is limited to the tidal reach of the river below Hartford. Several oil barges make the trip from Long Island Sound to Hartford each day, and some of the coal used for thermal power production in Hartford is transported by water.

The entire flow of the Connecticut River during low flow periods is used two to three times over for power production. The principal hydropower use is at Holyoke and Windsor Locks. During periods of low flow, the entire flow of the Connecticut River, with the exception of about 200 cfs of leakage, is retained by the Holyoke Dam on Saturdays and Sundays, seriously affecting waste disposal in the Enfield impoundment.*

Major pollution sources, municipal, industrial, and governmental, are shown in Table 1. Also given in Table 1 are: the type of waste -- combined or separate sewers for municipalities, or type of product for industries; the population equivalent of BOD discharged; the treatment existing at the time of the first conference (December 1963); the present status of compliance by the polluter with the Secretary's recommendations following the first conference; the existing treatment (September 1967);

*(See letter, dated October 11, 1967, to Mr. H. R. Pahren from Holyoke Water Power Company, Holyoke, Massachusetts, appended.)

and the treatment required under the Water Quality Standards adopted by the States of Massachusetts and Connecticut. The Massachusetts standards were approved by the Secretary of the Interior under provisions of the Federal Water Pollution Control Act. The time schedule is contained in Table 2. We are now recommending secondary treatment or equivalent for all sources of wastes.

Of the thirty-eight polluters listed in Table 1, thirty-two in Massachusetts, only five are in compliance with the Secretary's recommendations following the first conference. All five are in Massachusetts. Seventeen polluters still have no waste control facilities at all. Additional or new facilities are needed by all of the polluters listed in Table 1.

I will very briefly summarize the highlights of Table 1 with respect to the plants:

Hatfield, Massachusetts is not in compliance with the Secretary's recommendations at the present time.

Amherst is in compliance.

Northampton is in compliance.

Easthampton also is in compliance.

Mt. Tom section of Easthampton is not in compliance.

South Hadley is not in compliance.

Texon, Inc. is not in compliance.

Holyoke is not in compliance.

Brown Paper Company is not in compliance.

Chemical Paper Manufacturing Company went out of business.

Franklin Paper Company is not in compliance.

Valley Paper Company is not in compliance.

Whiting and Company is not in compliance.

West Springfield, Massachusetts is not in compliance.

Premoid Corporation is not in compliance.

Strathmore Paper Company is not in compliance.

Southworth Company is not in compliance.

Springfield, Massachusetts is not in compliance.

Shawinigan Resins Corporation is not in compliance.

Thal Dyeing Company is not in compliance.

Monsanto Chemical Company is not in compliance.

Agawam, Massachusetts, is in compliance.

Longmeadow is not in compliance.

Chicopee is not in compliance.

Westover Air Force Base is not in compliance.

Springfield Rendering Company is not in

compliance.

Hampden-Harvard Breweries is not in compliance.

U. S. Rubber Company is not in compliance.

Westfield, Massachusetts, is not in compliance.

Foster Machine Company is not in compliance.

Stevens Paper Mills, Inc., is not in compliance.

Columbia Manufacturing Company, Inc., is not in compliance.

East Longmeadow is in compliance.

In Connecticut, Enfield is not in compliance.

Thompsonville is not in compliance.

East Windsor is not in compliance. This is the Warehouse Point section.

Windsor Locks is not in compliance.

C. H. Dexter & Sons, Inc., is not in compliance.

Hartford is not in compliance.

East Hartford is not in compliance.

This concludes my statement, Mr. Chairman.

(Tables 1 and 2 contained in the report are as follows:)

TABLE I

WATER POLLUTION CONTROL NEEDS
CONNECTICUT RIVER AND TRIBUTARIES

Hatfield, Massachusetts, to Hartford, Connecticut

SOURCE	RECEIVING STREAM	TYPE OF WASTE	POPULATION EQUIVALENT DISCHARGED	1ST CONFERENCE EXISTING TREATMENT	1ST CONFERENCE COMPLIANCE W/ SECRETARY'S RECOMMENDATIONS	2ND CONFERENCE EXISTING TREATMENT	2ND CONFERENCE REQUIRED TREATMENT
MASSACHUSETTS							
Hatfield	Mill River	Combined	1,300	None	No	None	Secondary & Cl
Amherst	Connecticut River	Separate	7,000	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Northampton	Connecticut River	Separate	17,700	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Easthampton	Connecticut River	Separate	7,600	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Mt. Tom	Connecticut River	Separate	300	None	No	None	Secondary & Cl
South Hadley	Connecticut River	Combined	4,200	Primary	No	Primary	Secondary & Cl
Texon, Inc.	Connecticut River	Paper	420	None	No	None	Equiv. Second.
Holyoke	Connecticut River	Combined	41,000	None	No	Partly None, Partly Primary	Secondary & Cl
Brown Paper Co.(2)	Connecticut River	Paper	12,000	None	No	None	Equiv. Second.
Chemical Paper Mfg. Co.(3)	Connecticut River	Paper	(3)	(3)	(3)	(3)	(3)
Franklin Paper Co.	Connecticut River	Paper	1,000	None	No	None	Equiv. Second.
Valley Paper Co.	Connecticut River	Paper	3,600	Save-Alls	No	Save-Alls	Equiv. Second.
Whiting & Co.	Connecticut River	Paper	3,200	None	No	None	Equiv. Second.
West Springfield	Connecticut & Chicopee Rivers	Combined	17,000	None	No	Partly None, Partly Primary	Secondary & Cl
Premoid Corp.	Westfield River	Paper	3,000	None	No	None	Equiv. Second.
Strathmore Paper Co.	Westfield River	Paper	20,400	Save-Alls	No	Save-Alls	Equiv. Second.
Southworth Co.	Westfield River	Paper	600	Save-Alls	No	Save-Alls	Equiv. Second.
Springfield	Connecticut River	Combined	12,000	Primary	No	Primary	Secondary & Cl
Shawinigan Resins Corp.	Chicopee River	Chemical	2,600	None	No	None	Equiv. Second.
Thai Dyeing Co.	Chicopee River	Wool Dyeing	2,300	None	No	None	Equiv. Second.
Monsanto Chemical Co.	Chicopee River	Chemical	10,600	Phenol Recovery	No	Phenol Recovery	Equiv. Second.
Agawam	Connecticut River	Separate	10,200	Primary	Yes	Primary	Secondary & Cl
Longmeadow	Connecticut River	Separate	4,700	Primary	No	Primary	Secondary & Cl
Chicopee	Chicopee River	Combined	6,600	None	No	None	Secondary & Cl
Westover Air Force Base	Chicopee River	Separate	5,100	Primary	No	Primary	Secondary & Cl
Springfield Rendering Co.	Connecticut River	Rendering	6,000	Flotation	No	Flotation	Equiv. Second.
Hampden-Harvard Breweries	Connecticut River	Brewery	2,500	None	No	None	Equiv. Second.
U. S. Rubber Co.	Chicopee River	Synthetic Rubber	4,300	None	No	None	Equiv. Second.
Westfield	Westfield River	Combined	16,000	None	No	None	Secondary & Cl
Foster Machine Co.	Westfield River	Machining	---	None	No	None	Equiv. Second.
Stevens Paper Mills, Inc.	Little River	Paper	10,000	None	No	Save-Alls	Equiv. Second.
Columbia Mfg. Co., Inc.(4)	Little River	Metal Plating	---	None	No	None	Equiv. Second.
E. Longmeadow	Pecousic River	Separate	3,250	Secondary & Cl (Inadequate)	Yes	Secondary & Cl (Inadequate)	Secondary & Cl
CONNECTICUT							
Enfield							
Thompsonville	Connecticut River	Separate-Combined	3,700	Primary	No	Primary	Secondary & Cl
E. Windsor							
Warehouse Point	Connecticut River	Separate	2,100	None	No	None	Secondary & Cl
Windsor Locks	Connecticut River	Separate	7,200	Primary	No	Primary	Secondary & Cl
C.H. Dexter & Sons, Inc.	Connecticut River	Paper	17,300	None	No	None	Equiv. Second.
Hartford	Connecticut River	Combined	177,000	Primary	No	Primary	Secondary & Cl
E. Hartford	Connecticut River	Separate	22,400	Primary	No	Primary	Secondary & Cl

1. Population equivalent.
2. Took over American Writing Paper Corporation.
3. Went out of business in 1966.
4. Formerly the Westfield Manufacturing Company.
5. Includes municipal waste from Bloomfield, Newington, West Hartford, Wethersfield and Windsor and industrial wastes.

TABLE 2

COMPLIANCE DATES CONTAINED IN THE MASSACHUSETTS STANDARDS

SOURCE	DATES					
	Preliminary Report & Plans	Appropriation of Funds	Acquisition of Site	Complete Final Plans	Start of Construction	Completion of Construction
Hatfield	Completed	9/67	10/67	4/68	6/68	6/69
Amherst	1/72	3/72		1/73	3/73	3/74
Northampton	1/72	3/72		1/73	3/73	3/74
Easthampton	Completed	6/67	Own	4/68	6/68	9/69
Mt. Tom	Completed	6/67		4/68	6/68	9/69
South Hadley	1/72	3/72		1/73	3/73	3/74
Texon, Inc.	11/69			12/70	3/71	3/72
Holyoke--Project #1	Completed	9/67	Own	5/68	7/68	7/69
--Project #2	Completed	5/69		3/70	5/70	5/71
Brown Paper Co.	7/69			3/70	5/70	5/71
Franklin Paper Co.	7/69			3/70	5/70	5/71
Valley Paper Co.	7/69			3/70	5/70	5/71
Whiting & Co.	7/69			3/70	5/70	5/71
West Springfield--Project #1	Completed			12/67	3/68	12/68
--Project #2				1/73	3/73	12/74
Premoid Corp.	Completed			12/67	3/68	12/68
Strathmore Paper Co.	Completed			12/67	3/68	12/68
Southworth Co.	Completed			12/67	3/68	12/68
Springfield--Main Plant	1/72	3/72	4/72	1/73	3/73	12/74
--Indian Orchard Plant	9/69	12/69	Own	3/71	5/71	5/72
Shawinigan Resins Corp.	11/69			12/70	3/71	3/72
Thal Dyeing Co.	11/69			12/70	3/71	3/72
Monsanto Chemical Co.	11/69			12/70	3/71	3/72
Agawam	1/72	3/72	4/72	1/73	3/73	6/74
Longmeadow	1/72	3/72	4/72	1/73	3/73	6/74

Table 2 (Continued)

SOURCE	DATES					
	Preliminary Report & Plans	Appropriation of Funds	Acquisition of Site	Complete Final Plans	Start of Construction	Completion of Construction
Chicopee--Project #1					6/67	1/69
--Project #2				1/68	3/68	1/69
--Project #3	7/68			7/69	9/69	12/70
Westover Air Force Base					3/68	1/69
Springfield Rendering Co.	1/69			9/69	11/69	12/70
Hampden-Harvard Breweries	1/69			9/69	11/69	12/70
U. S. Rubber Co.	1/69			9/69	11/69	12/70
Westfield		9/67	10/69	5/68	7/68	7/70
Foster Machine Co.	9/67			5/68	7/68	7/70
Stevens Paper Mills, Inc.	9/67			5/68	7/68	7/70
Columbia Mfg. Co., Inc.	9/67			5/68	7/68	7/70
East Longmeadow	1/72	3/72	4/72	1/73	3/73	6/74

MR. STEIN: Are there any questions or comments?

MR. KLASHMAN: Mr. Pahren, do I understand you to say in your statement that you are now recommending the secondary treatment or its equivalent for all sources of waste and this is an addition to what came out of the first conference? Is that correct?

MR. PAHREN: That is correct.

MR. STEIN: Mr. Yasi.

MR. YASI: I would like to reserve certain matters for executive session.

MR. STEIN: Are there any further comments or questions? If not, thank you very much, Mr. Pahren.

MR. KLASHMAN: I should now like to call on Mr. Mark Abelson, Regional Coordinator, Northeast Region, for the United States Department of the Interior.

Mr. Abelson, do you have a statement?

MR. ABELSON: I have a short one.

STATEMENT OF MARK ABELSON, REGIONAL COORDINATOR, NORTHEAST REGION, U.S. DEPARTMENT OF THE INTERIOR

MR. ABELSON: Chairman Stein, Conferees, Ladies and Gentlemen: I am Mark Abelson, Regional

Coordinator for the Northeast Region, United States Department of the Interior.

The Department of the Interior is the Nation's primary agency charged with the responsibility for a wide variety of programs for the management, conservation, and development of the natural resources benefiting every section of the Nation. For this reason Interior can best be described as the "Department of Natural Resources."

The Department is made up of some two dozen bureaus and offices, whose functions and responsibilities cover the entire range of natural and human resources. In the Northeast, coordination of these functions and responsibilities is accomplished through my office in Boston.

In carrying out our vital responsibilities for sound management of natural resources, the Department encourages efficient resources use; works to assure that a sound resource base is provided to meet the needs of our expanding economy and our natural security; promotes an equitable distribution of benefits from nationally-owned resources; and seeks to prevent wasteful exploitation of resources.

The Department has a definite interest in all waters of the country and in the entire pollution matter.

Water, and its associated opportunities and problems, ignores State, regional and international boundaries. It is necessary that these interrelationships of water be so recognized, and that the efforts of all concerned plan for the best use of this valuable resource.

The focus of Interior's efforts is directed to the maintenance of adequate water supplies and adequate water quality for whatever uses man may wish to make of this resource. The Department's approach emphasizes the coordination and interrelation between uses and the effect of these uses on management and the quality of the total water supply system. We hope we can keep the country as an affluent, not an effluent, society.

Maintenance of Water Quality involves not only the quality levels for human consumption, but also quality levels for consumption by other animal and plant life, for development of other natural resources, and for industrial processes. These quality considerations are interrelated. They can be understood and controlled best from the point of view of water as a resource, rather than of a particular quality need.

Interior Bureaus, in addition to the Water Pollution Control Administration, carry on water quality studies related to the physical, chemical and biological

adequacy of our water resources. These studies and the associated research are chiefly those in which the skills and required knowledge are based on geology, chemistry, hydrology, engineering, and other physical science aspects of water management. Interior's water quality research extends beyond water supply to the study of environments adequate for the propagation, production, and control of both fish and wildlife resources, and for water-based recreation.

In conclusion, I would like to say that we urge that steps be taken to eliminate from the Connecticut River Basin those domestic and industrial pollutants which detract from the full public enjoyment of the aquatic resources of these areas.

Mr. Thomas Schrader, Assistant Regional Director of the Bureau of Sport Fisheries and Wildlife will present a statement on t! interests of that and the sister Bureau of the Department, the Bureau of Commercial Fisheries, and Mr. Rolland Handley, Regional Director, will present a statement for the Bureau of Outdoor Recreation.

Thank you.

MR. STEIN: Thank you, Mr. Abelson. Are there any comments or questions?

MR. STEIN: Mr. Abelson, as usual, you have been very helpful. When we heard at first that we had Field Coordinators we were suspicious. I had no notion of what Field Coordinators did but with your work and the others, it has been extremely helpful to us in the work in Interior and we would like to thank you and the other coordinators for your efforts.

MR. ABELSON: Thank you, Mr. Stein.

MR. STEIN: Mr. Klashman.

MR. KLASHMAN: I would like to call Mr. Thomas A. Schrader, Assistant Regional Director of the Northeast Region, Bureau of Sport Fisheries and Wildlife.

STATEMENT OF THOMAS A. SCHRADER,
ASSISTANT DIRECTOR, NORTHEAST
REGION, BUREAU OF SPORT FISHERIES
AND WILDLIFE

MR. SCHRADER: My name is Thomas A. Schrader. I am Assistant Regional Director of the Northeast Region, Bureau of Sport Fisheries and Wildlife, which is one of two Bureaus in the United States Fish and Wildlife Service. By agreement with Regional Director John T. Gharrett, Bureau of Commercial Fisheries, the statement

I am presenting represents our combined views.

In common with most other large rivers in the northeastern United States, the Connecticut River is polluted by a wide variety of municipal and domestic wastes. In the past, the bulk of polluting effluents have originated in the southern portion of the basin, between Holyoke, Massachusetts, and Long Island Sound. This is the reach within which commercial development and population densities are greatest. But only the fisheries of a few headwater streams are entirely free from some degree of pollution damage. A new pollution threat comes from construction or proposed construction of atomic-powered hydroelectric plants, which in their needs for cooling water, may (1) temporarily remove a major portion of available flow from a segment of the stream and (2) return to the stream waters so warm as to adversely affect the habitat for fishes and other organisms. There are deposits of sludge in long pools of the lower reaches of the Connecticut River which deprive shad of spawning areas and eliminate the production of food for fish. Similarly, trout spawning beds and food producing areas are destroyed in the upper headwater areas where logging roads and skidways are the source of large amounts of silt, washed into the streams during periods of heavy

rainfall.

The very knowledge that the Connecticut River is so generally used as a conveyance for human and other wastes of all descriptions certainly deters many anglers from seeking sport and food from the Connecticut River fisheries. Yet we are faced with a continuously increasing demand for sport-fishing opportunities and for the commercial fishery products which can be provided by the anadromous fishery resources and the finfishes and shellfishes which are year-round or part-time residents of the estuarine habitat, whose quality is strongly influenced by the quality of the fresh water inflow. A rehabilitated Connecticut River could contribute much more to meeting these demands than it does at present.

The coastal streams along the north Atlantic coast, including the Connecticut River, are now being studied with the intent to reestablish in them runs of Atlantic salmon and other anadromous fishes. These studies are being made under the provisions of the Anadromous Fish Act, Public Law 89-304, enacted by Congress and signed by President Johnson in October 1965. Now pending in Congress is legislation which envisions the large scale preservation and development of our estuarine resources. Without suitable water quality, however, these efforts

will be doomed to failure.

It is the position of this Service that the ultimate goal of the clean waters program of this Nation should be to maintain or achieve such quality in every stream, lake, estuary, bay, or other waters that the full potential of that water for production and human use of aquatic life and water-dependent wildlife resources can be realized. To the extent that any standard or classification of water quality fails to support efforts to reach this position or goal, this Service would disapprove of that standard or classification.

We support the criteria recommended by the National Technical Advisory Committee on Water Quality Requirements for Fishes, Other Aquatic Life, and Wildlife.

With your permission, Mr. Stein, I would like to add a few words about the anadromous fish restoration program. I feel that it may be of interest to this group to know that under the public law which I referred to, the anadromous fish registration act, the Connecticut River has been selected as one of three northeast rivers for a major effort to restore anadromous fish runs and our Bureau has programmed fifty thousand dollars for this fiscal year for the planning program for this River; and we have joined with the four State fish and game

departments through which the Connecticut River flows in developing this program and have looked forward to the program which the money made available from Federal sources will be largely used to improve the habitat of the stream or to improve fish passage facilities in the River but I point out that without the completion or successful efforts to clean up the River, this money will not achieve its full potential in improving this River and we are actively in support of all efforts that can be carried out to improve the quality of the Connecticut River.

MR. STEIN: Thank you very much, Mr. Schrader. Are there any questions or comments?

Mr. Klashman.

MR. KLASHMAN: I would like to now call on Mr. Rolland B. Handley, Regional Director for the Bureau of Sports and Outdoor Recreation.

STATEMENT OF ROLLAND B. HANDLEY, NORTHEAST REGIONAL DIRECTOR, BUREAU OF OUTDOOR RECREATION, DEPARTMENT OF THE INTERIOR

MR. HANDLEY: Commissioner Stein, Conferees,

Rolland B. Handley

Ladies and Gentlemen: the Bureau of Outdoor Recreation is continuing its study to determine the feasibility and desirability of designating portions of the Connecticut River as a national recreation area. This study, authorized by Public Law 89-616, is scheduled for completion by October 1968, with submission of a report to the President.

The 400-mile long Connecticut River affords various recreation opportunities. The use is far short of the potential, however, and will remain so until effective action is taken to remedy the river's present polluted condition. The increasingly urgent need in the northeastern portion of the country for the types of high-quality recreation opportunities the Connecticut River could supply, should not continue to be denied.

In recognition of the potential of the Connecticut River for recreation, the Bureau of Outdoor Recreation recommends water-quality standards for the entire length of the River that will permit primary contact recreation activities such as swimming, as well as boating, fishing, and other related water oriented pursuits. This recommendation was recently made to the Federal Water Control Administration in connection with the Bureau's review of water quality standards that have been

proposed for the four States through which the River flows.

MR. STEIN: Thank you. Are there any questions or comments?

MR. YASI: I want to pay a public tribute to the Bureau of Outdoor Recreation for the wonderful efforts that they are making with us in Massachusetts and I meant to comment on the United States Fish and Wildlife Service activities after the prior speaker, that we are working with both of them, not only the Fish and Game Divisions.

MR. KLASHMAN: There are several other agencies represented here. I am going to call on you; if you don't have a statement, would you please merely stand up and say so.

Mr. Stanley C. Josephs, Superintendent of the Cape Cod National Seashore --

MR. JOSEPHS: Thank you, Mr. Klashman. I do not have a statement. I am here as an observer.

MR. KLASHMAN: The US Geological Survey is represented by Mr. Horton. Do you have a statement?

MR. HORTON: No. We enjoy being here and thank you for the program and we have no statement.

MR. KLASHMAN: Mr. Taylor, Regional Program

Chief, Water Supply, U. S. Public Health Service.

Mr. Taylor.

MR. TAYLOR: Thank you, Mr. Klashman, we have no prepared statement.

MR. KLASHMAN: We are very glad to have you back with us. Mr. Taylor has just joined our regional office.

Mr. George R. Bond, U. S. Corps of Engineers.

MR. BOND: Sir, I am here only as an observer today. Thank you very much.

MR. KLASHMAN: Are there any other Federal agencies that wish to be recognized or make a statement? If not, that completes the Federal presentation.

MR. STEIN: Thank you, Mr. Klashman. At this point we would like to call on Connecticut. Mr. Curry.

STATEMENT OF JOHN J. CURRY,
DIRECTOR, STATE WATER RESOURCES COMMISSION,
STATE OF CONNECTICUT

MR. CURRY: Mr. Chairman, I am John J. Curry, Director of the State Water Resources Commission. My predecessor, William S. Wise, made a statement at the previous conference on this matter held on December 2, 1963.

This is the first of this type of conference which I have attended and you will recognize my knowledge of the type of statement which is most appropriate is confined to what I have been able to develop on the basis of the available record. It may seem like an apparent contradiction but because I have worked for 20 years on developing projects to eliminate water pollution in the State of Connecticut I have not been able to become familiar with the procedures of interstate and Federal actions such as this conference.

In Secretary Udall's letter of August 22 calling the parties of this conference together he indicated it was for the purpose of reviewing the status of the recommended pollution abatement program adopted at the first conference. It is assumed that this recommendation is the one contained in the letter of January 22, 1964, from the Secretary of Health, Education, and Welfare recommending that the Connecticut Water Resources Commission take appropriate action under its water pollution control program to insure the recommendations agreed upon by the conferees are carried out. I have reviewed Mr. Wise's statement in the transcript of the first hearing and the Chairman's summary as reflected in his closing statement, but having received a copy of

the proposed Federal statement for this second session it seems more appropriate to use the specific points in this summary applicable to the State of Connecticut for the direction of my statement here today.

There are apparently five sources of pollution in Connecticut concerning which the status and the progress made since the first conference should be stated. The first case Thompsonville, in the Town of Enfield, is a relatively small sanitary discharge with primary treatment. It was noted that compliance with the Secretary's recommendation would require the addition of chlorination facilities. It was indicated that this source would be corrected some time before 1970. Thompsonville is a Fire and Sewer District within the Town of Enfield. The town owns and operates a sewage treatment plant but has exerted little control of the Thompsonville sewerage system. Because that system is a combined system there was a problem of overflows. The Commission is working to have the entire problem brought under the town for solution. In 1965 the consulting engineers for the town corrected several active overflows in the district system. The town has authorized the construction of nine million dollars worth of improvements on the sewerage system, and the consulting engineer has submitted on

September 15, 1967, a report to add to and alter existing treatment facilities to handle all anticipated discharges. An order was entered against the town on May 15 of this year which includes a schedule of seven steps which will lead to the placing in operation of the completed facilities before the end of 1969.

The second one noted was Warehouse Point, in the Town of East Windsor, which at the time of the first conference was untreated. It was indicated in the first conference that this source could not be corrected until some time after 1965. The situation in the Town of East Windsor is a reversal of that in Enfield because the existing sewer system is located in the Warehouse Point Fire District. The Commission has acted to give the Town of East Windsor the responsibility for the entire problem so that undesirable conditions throughout the whole town can be sewered and treated in a town-owned plant within the district area. The site has been purchased by the town. An order against the town was entered on the 15th of May which includes a schedule of dates for seven actions which the town must take leading to the placing in operation of required facilities by September 1969.

The third case was the one industrial discharge from C. H. Dexter & Sons at Windsor Locks. The

following actions on this source since the first conference are of interest. The staff of the Commission has made detailed investigations which were supplemented by investigations by Dexter leading to a preliminary report by their consultants. On the basis of this report, the dates necessary to take individual actions to bring about the installation of adequate treatment facilities by May 1970 were agreed upon and incorporated in an order which was entered September 25, 1967. In the meantime the company has, at considerable expense, connected their sanitary wastes to the municipal sewerage system.

The other two sources are the discharges from Hartford and East Hartford, both of which are operated by the Metropolitan District Commission. At the time of the first conference these plants were providing primary treatment, but it was indicated it was necessary to add chlorination. The following actions on these sources should be considered. The Metropolitan District has submitted and the Commission has approved an engineering report to make all the necessary corrections to their systems so that the secondary treatment with chlorination will be provided on all discharges. The detailed plans for providing secondary treatment at Hartford are in preparation. A new outfall, which is the first step in

constructing these facilities, is under construction. The plans for the effluent pumping and chlorination facilities have been approved and are now before the Federal Water Pollution Control Administration in anticipation of a Federal grant. At East Hartford an additional primary settling tank is under construction and the chlorination facilities are out to bid. In the meantime two major improvements have been made to the sewerage system to eliminate overflow discharges and an effluent pumping station has been constructed.

We also note in the summary and statement prepared for this hearing that the degree of treatment now required is considerably higher than was considered for the Secretary's recommendation after the first conference. The accomplishment of these additional projects would normally require an automatic extension of the kinds of time limits which were discussed at the first conference. We do wish to say though that the policy of the State of Connecticut as it has developed before and since the first conference is more akin to the revised requirements than were the previous recommendations. All the actions described above were directed toward achieving secondary treatment and chlorination.

Connecticut in the last two years has had a

Special Task Force to recommend policies on the pollution abatement program for the entire State. You will recall, Mr. Chairman, that you spoke at the organization meeting of that group. The results of their work became Public Act Number 57 which became law on May 1 of this year. The additional facilities provided by this Act to bring about pollution abatement are now well known to the Department of Interior. For example, at the first conference there was a difference of opinion on whether the availability of Federal grants affected the programming of abatement facilities. This question is no longer pertinent since the State will now pre-finance the Federal grants. The Commission's actions since the passage of the legislation have been taken at the maximum rate. Orders with time schedules have been issued to all the municipalities of the State who have pollution problems and of course as indicated the four municipal problems here under consideration were issued such orders. In addition to the municipalities, 334 Orders have been issued to private sources. As indicated one of these is directed towards the industrial source of interest to this conference. All of these orders call for at least secondary treatment with chlorination or its equivalent. All have time schedules that are intended to bring about

complete treatment of all municipal sources by the end of 1972 and all other sources before the end of 1973.

At the end of June of this year the Commission submitted to the Secretary of Interior proposed standards of water quality together with its enforcement program and a system of monitoring our results. Subsequently, we have submitted our program grants plan which further detailed the pollution program of the State. These programs are firm commitments for Connecticut to meet its responsibilities in recognition of the fact that Connecticut should solve its problem in order to make the program in Massachusetts fully effective and in accord with your closing statements, Mr. Chairman, at the first conference.

We would also like to point out that Connecticut's attitude on elimination of pollution goes far beyond the bare essentials of these present programs. We have recognized that when high degrees of treatment are provided on all the sources of pollution the evaluation of the results of such action and the determination of the residual effects on our water quality will require a major step in the advancement of the science of stream analysis. The Connecticut River in the State is being subjected to investigations of a highly scientific nature in all aspects of hydrology and

environmental disciplines.

Certain requirements were imposed on the issuing of permits for discharges which required extensive investigations by the private applicants. This work was so extensive that it naturally spawned actions by the public agencies to make the most of the information being obtained. Our work in cooperation with the U. S. Geological Survey of the Department of the Interior is illustrative and worthy of note.

The Water Resources Commission of Connecticut in cooperation with the U. S. Geological Survey and with assistance from the Corps of Engineers is currently carrying out the following studies which were prompted by the necessity to more fully understand the hydrology of this important resource. Measuring the volume of fresh-water inflow to the estuary; monitoring the chemical quality of the fresh-water inflow; measuring the volume of tidal interchange in the estuary; monitoring on a continuous basis the chemical quality of the estuary; doing preliminary work to determine the value of using infrared imagery techniques to determine range and extent of heat differentials; and collecting basic data to determine the feasibility of using classic equations to define simply the relation between biochemical oxygen

demand and dissolved oxygen. Since 1965 monthly water samples have been collected for complete chemical analyses as part of the International Hydrologic Decade. These main stem data, together with flow data and quality data being collected on tributary streams make it possible to develop the hydrology of the surface-water inflow to the estuary.

Accurate records of the incoming water makes evaluation of the complicated dynamic flow conditions of the estuary feasible. To better understand the river, a program was begun in 1965 to measure the volume of tidal interchange near Middletown. Measurements of the volume of flow of the estuary in each direction requires the use of computer technology, sophisticated recording equipment, and continuously measuring velocity with banks of current meters for 24 hour tide cycles. The research phase of measuring tidal interchange is complete and the tidal discharge station is operational. Beginning last month, current discharge records for the Connecticut River are published as part of the monthly "Water Resources Conditions in Connecticut."

Installation of a Honeywell water-quality monitor unit near Middletown is almost complete. The data are digitilized, processed, and printed by computer. This

program begins the systematic and long range evaluation of the chemical quality of the Connecticut River estuary by the cooperating parties.

Infrared imagery, measured from low altitude aircraft, is being used as a tool for determining the extent of heat plumes from industrial sources of thermal pollution, effect of sewage inflow, and ground-water inflow. To date two infrared imagery runs have been made on the estuary and interpretations of the results are in progress. Because of the dearth of knowledge relating to estuarine hydrology, considerable data is required to determine the ability of an estuary to assimilate pollutants without health hazard. The data collected for DO and BOD analysis are being utilized to evaluate coefficients for equations defining the relation between BOD and oxygen deficit.

Studies being made by the University of Connecticut under sponsorship of other agencies of the Department of the Interior are equally of interest. I feel sure that the results of this work are as substantial as the efforts being exerted and will lead to precise evaluations of the accomplishments of pollution abatement programs.

MR. STEIN: Thank you very much, Mr. Curry,

for a really comprehensive report. Are there any comments or questions?

I have a couple of clarification questions. I think you have stated the problem very clearly. At the last conference we were talking about primary treatment. Now we are talking, presumably -- this has not been decided by the conferees yet -- about secondary treatment. If you are talking about secondary treatment rather than primary treatment, we have to look at the time schedule that was agreed upon last time and see if that is commensurate with the new program because secondary treatment needs more work.

As I understand it, Connecticut is going ahead with secondary treatment in chlorination of all municipal wastes and, as a matter of fact, translated in terms maybe that I can understand, your big city, Hartford, is well on its way.

MR. CURRY: That is correct, sir. I think we are a little beyond that.

MR. STEIN: This is merely for clarification. At one point you said all the previous listed communities were to get secondary treatment and chlorination but in the text does that include Thompsonville, East Windsor and so forth? Are they going to have secondary treatment

with chlorination at the termination of this program?

MR. CURRY: Yes. I pointed it out. Out of the hundred which are the total for this State, four of those are the four that are involved here and they are for secondary treatment.

MR. STEIN: I don't know. It is not abundantly clear.

MR. CURRY: It is such a standard thought to us that we don't think otherwise.

MR. STEIN: For the record again, when you speak in terms of orders, do you mean an administrative order or a court order?

MR. CURRY: This is a legal order that is subject to a hearing on request and subsequently has an appeal to court.

MR. STEIN: In other words, it is an administrative order authorized by the new law issued by your agency?

MR. CURRY: That is correct. It has the authority of the law of the statute. There are penalties for nonconformance with that order.

MR. STEIN: As you know, another part of the hat we wear is working with the States on legislation, and we were up in Connecticut and I think this law is very

much improved.

MR. CURRY: I think it is the best one there is.

MR. STEIN: That is true. I do think that in reading the statement with the reference to Massachusetts and the Interstate Commission and many references to our Department of the Interior, I think it speaks for itself and we are really talking in terms of a truly cooperative State-Federal program and I don't think there is any question here but we need the resources of all to do the job and I am very encouraged with the progress in Connecticut.

Mr. Wise, I think you should be proud of the fruition of your work through all of these years. Thank you very much.

MR. CURRY: I would like to note that one of our Commissioners, Mr. McWilliams, is sitting next to Mr. Wise.

MR. STEIN: Are there any other comments or questions? If not, would you continue calling your people from Connecticut?

MR. CURRY: Mr. Kirychuk.

STATEMENT OF JOHN P. KIRYCHUK,
CHAIRMAN, CONNECTICUT SPORTSMEN'S
POLLUTION COMMISSION

MR. KIRYCHUK: My name is John Kirychuk. I represent the Connecticut Sportsmen's Pollution Commission as Chairman and Men's Clubs and Chairman of the Connecticut Sportsmen.

I have been at this for about 20 years. It's about time I got up before you people. In the past, the sportsmen have been a nucleus where pollution is concerned in all our streams and waters. We have fought hard for it. We paid a dear price for it. Our taxes went up for it. It seemed that nothing has been done until recently laws came out, Public Law 660 as amended in 1961 and 1965. These laws have in some cases been used where enforcement orders were issued but in this State some enforcement orders are up to ten years old and have not been looked into, have not been checked. This is on an appropriations hearing in 1965 that can be found at the State and Water Commission.

In other instances, political interveners -- a small man like a sportsman hasn't got a shot. Last year we had Mr. Udall come up here with Senator Ribicoff up the

Connecticut River in Wethersfield Cove and that very day there were five million dead fish and that was the second time it happened in that year.

A week later down in Westhaven when Mr. Udall was here, about that same time, we had a big oil spillage on Crane's Reef. The State decided to investigate three weeks later after normal high tides and rain of about three and a half to four inches. That is what we sportsmen have been getting. We have been fighting this for many years.

What I am here to say is that I would like to see these laws enforced. I would like to see Public Law 660 enforced as it is written; that after a certain amount of time, 60 days I believe it is, that the polluters be brought into court. I believe the fine is up to a thousand dollars a day. I am sure that these industries and these commercial people who use 92 per cent of the water, families use eight per cent, 92 per cent is being used by them, that they can afford a filtration plant with the billions of dollars that they are making.

My statement is backed by the sportsmen's clubs and all of my information -- I have 20 years of records -- are down in the Department of Interior. They have been photographed by Mr. Flagg, Mr. Carver. I have

been in touch with President Johnson many times. Mr. Poppel, his executive aid, has told me that results will be had but I am still waiting for results and records from him. He is the Federal Pollution Control Commissioner.

I would like to see some of these things speeded up and I would like to see the public more involved and I would like to see the public more informed of what goes on behind the scenes. For years now this thing has been going on. The Governor will get up and say this, that we are going to do this and do that and a 150 million dollar bond issue was floated. They won't even clean up Hartford. The actual cost of cleaning Connecticut up is up to three billion dollars but the public is not informed of these things and the Connecticut River was given, I believe, five million dollars for a survey of some type, for recreational purposes. The majority of that money, I guarantee you, will be spent long before a sportsman or you people get to use its recreational facilities.

The way the law is now they keep giving out permits to pollute. These are temporary permits, as those that were given out ten and twelve years ago, and they are not even checked on. Now we have just issued many more permits. I read the papers. I cut out

the clippings. I keep track of it. Sometimes you can look back in your files and find out that these same companies have been issued permits before. As a sportsman spokesman, I would like to know why the law has not been enforced on these big industrial and commercial people as it would be on the average public who gets out there and dumps a bag of garbage into a brook and he is in court that next day.

Thank you.

MR. KLASHMAN: Would you mind giving me the spelling of your name?

MR. KIRYCHUK: K-i-r-y-c-h-u-k. I have been invited here by Mr. Udall himself.

MR. STEIN: Are there any comments or questions?

I would like to point out that we are here under the provisions of the Federal law and I think we are carrying out what the law says in the way we are supposed to carry it out and that is to work through a conference of this kind and we have had cases all over the country involving some 1200 industries and cities. I know no other way of doing it and maybe there is another way than painstakingly going through this source by source and I think Mr. Kirychuk's statement reflected

that -- Mr. Curry's statement reflected that and also Mr. Pahren's; source by source, getting the sources, no matter how big and no matter how small and again Mr. Curry's statement has that reflected in it, in a small township or in Hartford, taking them all, deciding precisely what has to be done with it. In this case, secondary treatment was chlorination, as Mr. Curry pointed out, for the Connecticut cities, setting up a time schedule and seeing if you can meet the time schedule. This is the enforcement process. This is the way we get things done here and this is what the law provides.

I think we are following, I hope, both the letter and the spirit of the Federal and State law.

Does that conclude the Connecticut presentation?

MR. CURRY: That is all I have.

MR. STEIN: We will stand in recess for ten minutes.

(A short recess was then taken.)

MR. STEIN: May we reconvene? We will now call on Mr. Alfred Peloquin of the New England Interstate Commission.

Mr. Peloquin.

Alfred E. Peloquin

STATEMENT OF ALFRED E. PELOQUIN,
EXECUTIVE SECRETARY, NEW ENGLAND
INTERSTATE WATER POLLUTION
CONTROL COMMISSION

MR. PELOQUIN: Mr. Chairman and members of the conference: With due consideration to the statement presented by Mr. Joseph C. Knox, former Executive Secretary of the New England Interstate Water Pollution Control Commission at the initial Connecticut River Enforcement Conference on December 2, 1963, I assume that you are familiar with the origin of the New England Interstate Water Pollution Control Compact and with the composition of the Commission which administers it, consequently I shall not discuss these points today. I should like to re-emphasize however, that under the terms of the compact, each signatory State agrees to prepare classifications of its interstate waters according to present condition and proposed highest use and to submit them to the Commission for approval. After approval by the Commission, the States involved are pledged under the terms of the Compact to establish programs for the treatment of sewage and industrial wastes to bring about the

improvements required to meet the approved classification. The Commission has no authority to issue orders for pollution abatement. Such powers are retained by the individual States and used when needed to enforce classification requirements.

As stated in the Federal statement, this second session of the conference on the Connecticut River has been called to consider the progress made in abating pollution since the first session. Since then, December 2, 1963, eleven projects with a total estimated cost of $7,205,000 have either been approved, are under construction or have been completed within the conference area. From this point alone, it is obvious that there has been progress in the control and abatement of water pollution in the Connecticut River. Cognizance is taken of the fact that construction of treatment facilities has not been as rapid as anticipated. Legal, political and financial procedures in municipal actions have resulted in delays in construction. The interest of Congress in encouraging pollution abatement and strengthening existing laws thereon has been a major contributing factor to these delays. Senate Bill 649, introduced in the 88th Congress proposed grant programs more attractive, financially, to communities and consequently the slowdown began.

When Congress adjourned, this bill was still in the Rules Committee and thus automatically expired. Senate Bill 4, a bill similar to S. 649 was introduced in the 89th Congress on January 6, 1965, and was signed into law ten months later. In February 1966, four months after passage of S. 649 as the Water Quality Act of 1965, new legislation was introduced in the 89th Congress to provide still greater incentives under the construction grant program. On November 3, 1966, Senate Bill 2947 was signed into law as the Clean Waters Restoration Act of 1966, Public Law 89-753. In addition to the aforementioned Acts, additional legislation providing Federal aid for sewerage and sewage treatment plant construction was enacted in 1965 as the Housing and Urban Development Act of 1965, Public Law 89-117; the Public Works and Economic Development Act of 1965, Public Law 89-136; and the Consolidated Farmers Home Administration Act Amendments - Rural Water and Waste Disposal Systems, Public Law 89-240.

Analysis of Federal legislative action reveals a constant state of change in Federal water pollution control legislation from early 1963 to November 1966. These changes increase construction grant authorizations from 30 per cent of the estimated reasonable cost

of a facility or $600,000, whichever was smaller, to as much as 55 per cent of the cost of a facility with no ceiling limitation. As a case in point, the estimated cost of treatment facilities for Chicopee, Massachusetts, in the Connecticut River Basin is $4,000,000. Prior to the Water Quality Act of 1965, Chicopee would have received the maximum $600,000 under Public Law 660. The Water Quality Act of 1965 would have provided a maximum grant of $1,200,000 which is 30 per cent of the estimated cost. Subsequent to passage of the Clean Waters Restoration Act of 1966, Chicopee could receive up to 50 per cent in Federal funds with an additional 30 per cent from the recently authorized State-aid program. In 1963, the citizens of Chicopee would have had to raise $3.4 million through local taxes to finance a construction of treatment works; today, the city's share is $800,000. Although the New England Interstate Water Pollution Control Commission encourages prompt pollution abatement and control action at State and municipal levels, the delays on the part of Chicopee are understandable.

The cleanup of the Connecticut River within the conference area was further complicated by State legislative action since the initial conference in 1963. Until 1966, State-aid legislation had been introduced

annually in the General Court of Massachusetts, but failed of passage. On September 6, 1966, Chapter 685 of the Acts and Resolves of 1966 established a new Division of Water Pollution Control within the Department of Natural Resources and transferred pollution control responsibility thereto from the Department of Public Health. This new Division became operational on January 1, 1967, and concentrated on preparing the necessary submissions to the Federal Water Pollution Control Administration as required under the Water Quality Act of 1965. I might add that Chapter 687 of the Acts and Resolves of 1966 also provided for the first time, a State-aid program for the Commonwealth of Massachusetts. On the basis of my comments thus far, it is obvious that because of legal, political and financial actions at the Federal and State levels, the delays encountered in the water pollution abatement program in the Connecticut River Basin are justifiable. In view of the administration's request for $203 million for construction grants in lieu of the $450 million authorized by the Clean Waters Restoration Act of 1966, additional delays may develop due to a lack of Federal funds. Testimony before legislative appropriations committees indicate that the Federal Water Pollution Control Administration supports the admin-

istration's position that the full $450 million is not needed. May I state here that, in New England alone, municipalities could qualify for $61.1 million in grants in fiscal year 1968. Under the full $450 million appropriation New England would receive $28.1 million for construction of treatment works. Under the administration's $203 million proposal only $13.7 million would be available. The smaller appropriations result in a 60 per cent decrease in allowable funds for both Massachusetts and Connecticut.

Massachusetts and Connecticut have submitted, through the Federal Water Pollution Control Administration Regional Office progress reports annually in compliance with Item 7 of the Summary of the First Conference which reports actually negate the need for this conference today. Approval by Secretary of the Interior Udall of Massachusetts' Implementation Plan and the recommended approval of Connecticut's plan subject to minor modification constitutes cognizance and acceptance by the Federal Water Pollution Control Administration of the revised construction schedules for the Connecticut River Basin, facts which also make this conference unnecessary.

Before I conclude, may I comment on the Federal Water Pollution Control Administration statement

presented earlier today to clarify two points. First, the only reclassification of the Connecticut River within the conference area was that reach below Enfield Dam in Connecticut which was changed from Class C to Class SC or a change from fresh water to marine water classification. The classification or the allocation of specific water uses from Fnfield north, across the Connecticut-Massachusetts line, to Hatfield, Massachusetts, did not change. Secondly, in his closing statement at the first session of the conference, the conference chairman stated that for municipalities, treatment would "include either adequate primary or secondary treatment as required by the State, with adequate chlorination during the recreational season from at least May 1 to September 15, and that industrial wastes would be incorporated or caused to flow in and be treated in municipal systems, or where they had separate discharges, such industrial wastes would be treated so as not to interfere with any of the legitimate water uses named in the appropriate classifications for those waters." Lest there be misunderstandings of the application of the column entitled "Required Treatment" under the listing of "2nd Conference" in Table 1 of the FWPCA report, the required treatment noted therein was not a recommendation of the first session of the conference.

Connecticut has had a policy of secondary treatment and chlorination. The new Division of Water Pollution Control in Massachusetts has also adopted a policy of secondary treatment. These policies are reflected in the individual implementation plans submitted to the Secretary of the Interior on June 30, 1967. Since the required treatment set forth in the Federal report presented earlier does not in every instance coincide with the approved State implementation plan, I question whether the Federal Water Pollution Control Administration plans to disregard the approved plan in favor of the treatment stipulated at this conference.

In closing, if we can agree that the approved State implementation plan will be the accepted plan in the eyes of the Federal Water Pollution Control Administration; if we can agree that this conference will terminate with the conclusion of this session and that all matters pertaining to the pollution abatement program in Connecticut River enforcement conference area will be referred to the New England Interstate Water Pollution Control Commission and the appropriate State water pollution control agency, then, this session of the Conference will have served a useful purpose.

MR. STEIN: Thank you. Are there any

comments or questions?

MR. KLASHMAN: Mr. Peloquin, I didn't have the benefit of your statement prior to today the way you did ours, and so I haven't been able to go over as carefully as I would have liked to the presentation just made. I hope in the future we can get it ahead of time since we gave you our statement.

MR. PELOQUIN: I might comment on that point. I received a draft of the statement. The final copy of the statement was made available to me through the courtesy of Mr. Pahren yesterday morning on a commuter train going into Boston.

MR. KLASHMAN: You got the draft. I didn't get your draft.

On Page 4 of your statement you talk about the fact that the Federal Water Pollution Control Administration has recommended approval of Connecticut's plans subject to minor modifications. Since I am the Regional Director in the region here, I wonder who it is that has done this, because I haven't doneit, and I am supposed to have the authority.

MR. PELOQUIN: It is my understanding that the plan as submitted is acceptable and will be recommended for approval by the Secretary subject to my --

MR. KLASHMAN: I only wanted to -- I am the one who makes the recommendations. I have not made any

such announcement, so I don't know how you can do it unless I was talking in my sleep and that is very possible.

I think the other point is in this Table 1. I think it very clearly states that we are talking about the first session and second session. There is no thought at all that the first session recommended secondary treatment.

Further, the reports which were received periodically -- I guess it was by you because you were Chief of the Enforcement Program in the Region at the time -- the reports which were received by you are not the type of treatment that we are talking about today. In other words, the reports that you received were talking about primary treatment and we are talking now about secondary, which is something quite different. You make reference to the fact that the Administration received reports of non-compliance, is that right?

MR. PELOQUIN: That is right.

MR. KLASHMAN: What I am trying to clarify is that these reports we are talking about are for primary treatment, and we are now talking about secondary. I think that the situation is quite different. I have nothing

else to say.

MR. STEIN: You said that the conference was not necessary, the enforcement conference was not necessary. I am gratified to see that with all the changes we have had in the technical staff of the Commission, that their policy has been consistent from the first days that the Federal Government came up here. Any Federal enforcement action that we have had, the New England Interstate Commission has come forward and said that the conference is not necessary, with one exception, and that is when the Governor of Massachusetts had us come in on the Merrimac River, and that we came into on a State request.

Another point that we always get, all matters relating to pollution abatement in the Connecticut River Enforcement Conference area be referred to the New England Interstate Water Pollution Control Commission and appropriate State agencies, and I assume you mean all matters except Federal financial assistance.

I think we have to realize, all the people have to realize, that Congress has made decisions in the Federal Water Pollution Control Program. I think we all

have to recognize that this is a job big enough for all of us and I think the Congress has decided that. We hope it is going to be a cooperative State-Federal-Interstate program.

As Mr. Mark Abelson pointed out, we are the Department of Natural Resources. We think you have a priceless heritage in New England. I think there is enough of a job for all of us to do without our getting into this conceptualism--Federal rights, States rights and so forth. I don't know that we will have any meaningful discussion on that. Our job here is to get the waters as clean as possible and we certainly have subscribed to the notion that the day-to-day operations of pollution control programs rest with the States and cities. I don't think there is any question about that. I would hope after all these years we could come up with a cooperative approach and not be trading recriminations.

MR. PELOQUIN: I agree with you wholeheartedly that the nature and severity of the pollution problem in New England and nationwide is substantial enough to require a consolidation or coordination of the Federal, State and local forces. I believe that the conferees as well as myself and I believe the members of your staff are aware of some of the prior actions with regard to the calling of

conferences and with regard to obtaining information from sources. What I am alluding to here is that in the future I hope that such inquiries, actions with regard to State and Federal cooperation and coordination will be coordinated through the New England Commision and the appropriate state involved rather than through other channels.

MR. YASI: Since I am Vice-chairman of the New England Insterstate Water Pollution Control Commission, Mr. Stein, and in view of your remarks for the record, I would like to be recorded as highly endorsing byplay through the New England Interstate Water Pollution Control Commission without in any way stepping on the toes of the powers of the Federal Water Pollution Control Administration. I think the enforcement procedure here is an absolute necessity and may well come into greater play in the very near future. However, there are some of us who feel that the Interstate Pollution Control Commission is a very useful tool. Nothing could be more involved in matters of dispute between the States. I think it was designed for this very reason. I think it should have a very active part to play and I would hope, too, that your agency would consider that.

Tomorrow morning Secretary Udall will be

swearing in one Frank Gregg as the Federal Chairman of the New England River Basin Commission. At least fifty per cent of the job that they have to do deals directly with water pollution and water pollution abatement.

I would think that the theory proposed by Mr. Peloquin would flow over to the River Basin Commission. I certainly hope and endorse the Commission activity, both the New England Interstate and the River Basin Commission.

MR. STEIN: I think we could all agree with that. By the way, while not attempting to speak for Mr. Gregg, I have known and worked with him for years. I think you are going to find him very sympathetic and you are really getting one of the best natural resources men in the country, in my opinion, up in this area. Mr. Gregg has been active in the field for many years. Many of you may know that in years past he has been National Executive Director of the Isaak Walton League; Special Assistant to the Secretary of the Interior, and worked with the Conservation Foundation. So, he is eminently qualified for the job and I know your relations will be excellent.

Any further questions or comments? If not, we will call on Massachusetts. Mr. Yasi?

Thomas C. McMahon

MR. YASI: Mr. McMahon.

STATEMENT OF THOMAS C. MC MAHON,
DIRECTOR, DIVISION OF WATER
POLLUTION CONTROL, COMMONWEALTH
OF MASSACHUSETTS

MR. MC MAHON: Mr. Chairman, members of the conference, I am Thomas C. McMahon, director, Division of Water Pollution Control, Commonwealth of Massachusetts. In the past two years, there have been many significant changes in the Water Pollution Control picture, both at the national level and also within the Commonwealth of Massachusetts. There have been two major amendments to the Federal Water Pollution Control Act, notably the Federal Water Quality Act of 1965, which requires the adoption of standards on interstate waters by the States and also the Clean Waters Restoration Act of 1966, which was approved on November 3, 1966, which ostensibly provides for the first time, a realistic Federal construction grants program to assist communities in the institution of the necessary waste treatment facilities.

On September 6, 1966, the Massachusetts Legislature enacted a comprehensive and far reaching water pollution

control program: Chapter 687 establishing a $150 million State construction grant program over the next ten-year period, and a one million dollar a year research and development program designed to develop new and improved waste treatment methods. Chapter 685 created a new Division of Water Pollution Control under the Water Resources Commission in the Massachusetts Department of Natural Resources with complete authority to implement, administer and enforce water pollution control within the Commonwealth. Also Chapter 700 and 701 provide for corporate and local tax incentive assistance to industries installing suitable industrial waste treatment facilities.

The Massachusetts Water Resources Commission adopted Water Quality Standards on all interstate, intra-state and coastal and marine waters on June 20, 1967, and submitted the interstate portion thereof to the Department of the Interior on that date. On August 7, 1967, the Massachusetts Standards were approved by that Federal Agency. Included within the Standards is an implementation program delineating compliance dates for each of the municipal and industrial polluters throughout the State.

In summary, a new program has been established

for a positive attack on water pollution control on a statewide basis. It is the contention of Massachusetts that approval of the implementation plan on August 7, 1967, by the Federal Department of the Interior supersedes the earlier Federal compliance program delineated at a time when there was insufficient financial resources from Federal sources to accomplish the program defined in the Federal Conference Summary.

It is significant to note that during the transition period of the past two years, the changes in the Federal grant percentages, allowed for communities for the construction of waste treatment plants and the anticipated enactment of State grant programs acted as a deterrent for progressive programs of water pollution control not only in Massachusetts, but in most States throughout the Country.

Massachusetts, at the present time, has a potential for a twenty million dollar construction program for fiscal year 1968; we all recognize that the Federal authorization has been cut back so that Massachusetts may receive some five million dollars in Federal construction grant money, therefore, the total waste treatment plant construction program for Massachusetts may be limited to some seven million dollars for fiscal year 1968, due to

lack of the Federal Government appropriating the full share specified in the Clean Waters Restoration Act of 1966. In recognition of the enormity of the problem and the irrefutable fact that the pace of Water pollution control is in inexorably tied to the availability of Federal Funds, we have repeatedly urged through our Congressional Delegation, the restoration of these FY 1968 funds and also suggest the re-evaluation of the total national requirements for future years.

There has been significant progress nevertheless in the Connecticut River Basin within the conference area in the past several years and acceleration of this program is delineated in the implementation plan for this area.

Hatfield: Completed preliminary plans for lagoon and obtained site. Because of upgrading of treatment requirements by State, the Town was requested to revise its plans to provide secondary.

Amherst: Agreed in writing to plan of implementation. Agreed to secondary.

Northampton: Voted funds for plans for secondary.

Easthampton; Voted funds for plans for construction of secondary treatment facility and for

sewer extensions to serve Mt. Tom area.

South Hadley: In compliance.
Texon, Inc.
Holyoke: Municipal Constructed primary treatment plant serving 60 per cent. Have completed plans and voted funds for construction of Project #1 interceptors.

Brown Paper, Franklin Paper, Valley Paper, Whiting and Company: To city if possible.

West Springfield: Municipal (to Springfield Plant). Completed interceptor to pick up industries.

Southworth Co.: Connected to sewer.

Strathmore Paper: Sewer now available.

Premoid: Sewer now available.

Springfield: Municipal -- in compliance, not listed at first conference.

Shawinigan Resins Corp.: Negotiating with city.

Monsanto Chemical Co.: Negotiating with city.

Thol Dyeing Company: Negotiating with city.

Agawam: In compliance - to Springfield.

Longmeadow: In compliance, not listed at first conference.

Chicopee: Is in process of signing contract for construction of primary treatment plant.

Westover Air Force Base: To be picked up by Chicopee Interceptor in Project #2.

Springfield Rendering.

Hampden-Harvard Breweries: To be connected to municipal sewer.

U. S. Rubber Co.: To be connected to municipal sewer.

Westfield: State initiated legal action. City has voted its share for construction of secondary treatment plant.

Foster Machine, Stevens Paper, Columbia Manufacturing: To city if possible.

East Longmeadow: Municipal - In compliance.

In conclusion, we would concur with the recommendations of Mr. Peloquin of the New England Interstate Water Pollution Control Commission that as a matter of record the State implementation program has been accepted by the Department of the Interior under the same section of the Act that promulgates the conference approach, and that we feel there is no need to continue this particular enforcement action, as both States program of water pollution control are progressing in a satisfactory manner and that Massachusetts as signatory to the Interstate Compact is pledged to cooperate and work with the State of Connecticut and other States in positive and cooperative programs of waste treatment on interstate waters.

MR. STEIN: Thank you very much. Are there any comments and questions?

It is a comprehensive and clear statement.

Are there any more participants from Massachusetts?

MR. YASI: Mrs. Flood.

STATEMENT OF MRS. BERNARD H. FLOOD, DIRECTOR, LEAGUE OF WOMEN VOTERS OF MASSACHUSETTS, CHAIRMAN, INTER LEAGUE COMMITTEE ON CONNECTICUT RIVER

MRS. FLOOD: I am Mrs. Bernard H. Flood. I am the Director of the League of Women Voters in Massachusetts and Chairman of the Inter League Committee on the Connecticut River. Many changes have taken place since the first session of the conference on pollution of the Interstate waters of the Connecticut River and its tributaries on December 2, 1963. The least of which perhaps is that I now have two titles: However, even this minor detail has some significance, because it shows that league members have learned the importance of interstate cooperation for water quality development. The Inter League Committee consists of the league water resource chairmen of the four States, New Hampshire,

Vermont, Massachusetts and Connecticut, and representation from each of the 26 local leagues in the Connecticut valley. We have mutual concerns and diverse needs. We are working together to resolve our differences in the light of our mutual interests. We are also attempting to give meaningful direction to the various planning endeavors for the Connecticut River. Our primary concern is, of course, a clean, usable river from source to mouth.

In our individual States, we have been particularly concerned with the development of a positive response to the Water Quality Act of 1965. Each state now has a river classification system, a plan for meeting these classifications, and a timetable for implementation of the plan. Massachusetts and Connecticut have followed the example of Vermont and New Hampshire and established a State financial assistance program for local sewage treatment facilities construction. Massachusetts has established a new Division of Water Pollution Control and given it wide authority and, on paper at least, an adequately diversified staff. The picture has changed considerably since 1963, and we are somewhat abashed to reread our statement, made at that time, and realize our own lack of vision. We were stuck on dead center and grasping at straws as indications of some

movement forward. 1966 and 1967 have shown evidences of forward motion. A brief review of the areas of concern expressed earlier in the 1963 hearing will demonstrate some of the forward motion and reveal new areas. Four years ago, we suggested that the application of a system of classification appeared to be self defeating. In fact, we were so concerned as to insist at all State hearings on all rivers that no classification should be considered below grade B. The solution appears to lie in such policy statements as Massachusetts has published: "Classification review on D and C streams will be made after completion of the first phase of this program." We can only hope that communities and industries will then be willing to face up to new expenditures. Secondly, we expressed concern that the prevalent attitude was that waste carrying was a good use for a stream. Again, we find that the Commonwealth of Massachusetts states that, "All waste sources on fresh waters will be required to be treated to the secondary level regardless of the stream classification assigned." Furthermore, "Tertiary treatment may be required where the estimated increased beneficial water uses can be shown to be economically justifiable," and further, "It is the policy of the Division whenever low classifications are encountered,

the application of which was required by particularly difficult technological problems, that research and development funds be expended to provide for the upgrading of those waters so classified." We are hopeful that this last policy may assist in establishing some research projects and development projects to determine the best means of solving the combined sewer problem in the Holyoke-Springfield area of Massachusetts. I am sorry not to be able to quote similar policy statements from Connecticut. I have been unable to secure copies of their proposals for water quality standards.

A third concern which we expressed four years ago, was that "plans approved were usually too timid." We have no experience yet to determine whether the appropriate State and Federal agencies will require much more satisfactory proposals before funds are allocated. We have in Massachusetts a law establishing regional sewer districts, but there is much grumbling, and our amendments to the Massachusetts Clean Waters Act of 1966 allows for districts on a single town basis, "at the discretion of the Division of Water Pollution Control." We trust again that all of the consulting engineering firms will endeavor to set the sights of local communities on more adequate plants. We are

happy to note that the New England Area will benefit from the establishment of a training program for personnel.

Our fourth concern expressed at the earlier hearing related to the fact that the States had not accepted their share of responsibility for pollution control. Happily, we can point to the $150 million bond issues voted by Connecticut and Massachusetts. While we currently have a cliff hanger in the case of the amendments to the Massachusetts Clean Waters Act of 1966, we expect that the suspense will be ended soon. And I do not have reference to the Red Sox.

We are gratified at the progress made. It is real. We do have many problems still facing us. We have had a hassle in our legislature over the grade levels for certain positions in our new department. We have a shortage of trained people. We by no means have the wholehearted support of all segments of society for the so-called Clean Water programs of 1966. We have the very real disappointment of the retrenching by the Federal Government in its committment of funds for fiscal 1968. We have looming the newer threat of thermal pollution from sources further north, and maybe even closer to this area of today's concern. Resolution of the thermal problem will not be easy.

Mrs. Bernard H. Flood

Perhaps today's conference will result in greater awareness on the part of the general public that there are problems, there are solutions and there will be hard decisions ahead. I hope it doesn't lead to the attitude expressed by my then five-year old who had become very concerned and conscious of the clean water program by sitting through meetings, hearing me rehearse speeches and interminable telephone conversations. When he saw a television public service ad for Clean Water he came shouting into the kitchen, "Mama, Mama, you don't have to worry about clean water anymore. They have it on television." They are not going to do it - we are.

We think that our agency people have a real committment to a clean Connecticut. Our committee hopes to assist by ensuring public support.

MR. STEIN: Thank you, Mrs. Flood, for an excellent statement. Are there any comments or questions? My sympathy is with you on the Red Sox. I wish them all the best luck but we have a funny thing in this Country. Every time we have a city with a big-league team, they also have a big-league pollution problem. Evidently in this Country you can't have one without the other.

The Conferees will adjourn into executive session. Hopefully, we will have an announcement in this

room at 1 o'clock. If we are not able to have an announcement at 1 o'clock, we will make an announcement to that effect at 1 o'clock. As far as I can tell by looking at the record here, and I am often wrong, but I would sense we are not too far apart and should be able to come up with an agreement.

We will stand recessed then until 1 o'clock.

(Whereupon, at 12:15 p.m. a recess was taken)

AFTERNOON SESSION

2:15 P.M.

MR. STEIN: May we reconvene? I am happy to report that the conferees representing the New England Interstate Agency and the water pollution control agencies of Connecticut and Massachusetts and the United States Department of the Interior have arrived at unanimous conclusions and recommendations. I think you will find our prose a little briefer than our deliberations. This always happens when you get it down to a small point and our conclusions very short, brief, to the point. You have to realize that previous conferences were held and summaries are available with the details.

Closing statements

These are the unanimous conclusions and recommendations of the conferees.

At this conference, the water quality requirements, treatment facilities and time schedule presented by the Connecticut Water Resources Commission and by the Massachusetts program contained in the water quality standards submitted by Massachusetts and approved by the Secretary of the Interior, are subscribed to and endorsed by the conferees.

Do any of the conferees have anything they wish to add?

I want to thank you all for coming and staying with us. I think we have made a considerable amount of progress in this activity. This has been reflected here and I think we are in a situation where you will see two State programs in full swing and we all confidently expect that these programs will result in a clean Connecticut River and, just speaking for myself, I think I can sense when an abatement program is going and when an abatement program is not going and my feeling is that on the Connecticut River, with the programs of the State of Connecticut and the State of Massachusetts, we are in the throes of a full-fledged abatement program that is going to produce results in the relatively near future.

Closing Statements

Thank you all for coming and the conference stands adjourned.

(Whereupon, at 2:30 p.m., the conference was adjourned.)

APPENDED LETTER

HOLYOKE WATER POWER COMPANY

HOLYOKE, MASSACHUSETTS

October 11, 1967

Mr. H. F. Pahren
Director of Technical Programs
Room 2303
John F. Kennedy Federal Building
Boston, Massachusetts 02203

Re Report on Pollution of Interstate Waters of the Connecticut River - Massachusetts/Connecticut (Second Session)

Dear Mr. Pahren

This letter supplements my visit to your office on October 6, 1967, concerning the Report on "Pollution of Interstate Waters of the Connecticut River, Massachusetts/Connecticut (Second Session) issued by the U. S. Department of the Interior, Federal Water Pollution Control Administration, Northeast Region, Boston, Massachusetts, dated September 1967.

Our concern is with paragraph H. Hydropower on page 8 which states in the last sentence:

"During periods of low flow, the entire flow of the Connecticut River, with the exception of about 200 cfs of leakage, is retained by the Holyoke Dam on Saturdays and Sundays, seriously affecting waste disposal in the Enfield impoundment."

This infers to the layman that, because of some arbitrary action on our part, we are seriously affecting waste disposal in the Enfield impoundment.

For the record, we wish to state that the Holyoke pond, for all practical purposes, is a run-of-the-river development. The times when water is not released from the Holyoke pond on Saturdays and Sundays are the times when no water comes down the river.

We propose that the paragraph under discussion read as follows:

H. Hydropower

It is said that the entire flow of the Connecticut River during low-flow periods is used two to three times over for power production. The principal hydropower use in the river reach covered by this report is at Holyoke and Windsor Locks. Both installations are run-of-the-river. During periods of low flow, the inflow to Holyoke on Saturdays and Sundays approaches zero, and, with the exception of about 200 cfs leakage, there is no discharge available from Holyoke because of lack of inflow which seriously affects waste disposal in the Enfield impoundment.

I appreciate the time you spent with me reviewing our

problem and for your suggestions. I understand that, by acting promptly, we may be able to have the official transcript modified.

Thank you again for your courtesy.

Very truly yours

/s/ Robert H. Walker

Robert H. Walker
Vice President - Operations

RHW:dmh

- - - -

APPENDIX "A"

REPORT ON
POLLUTION OF INTERSTATE WATERS OF
THE CONNECTICUT RIVER
MASSACHUSETTS/CONNECTICUT
(Second Session)

U. S. Department of the Interior
Federal Water Pollution Control Administration
Northeast Region
Boston, Massachusetts

September, 1967

REPORT ON
POLLUTION OF INTERSTATE WATERS OF
THE CONNECTICUT RIVER
MASSACHUSETTS/CONNECTICUT
(Second Session)

I. INTRODUCTION

On the basis of reports, surveys, or studies, the Secretary of Health, Education, and Welfare, having reason to believe that pollution of the Connecticut River and its tributaries caused by discharges of untreated and inadequately treated sewage and industrial wastes in Massachusetts was endangering the health or welfare of persons in Connecticut, a state other than that in which the discharges originate, called a conference in the matter of pollution of the interstate waters of the Connecticut River and its tributaries (Massachusetts/Connecticut). The conference was held December 2, 1963, in Hartford, Connecticut.

The Secretary of the Interior* called this second session of the conference on the Connecticut River to consider progress made in abating pollution since the first session.

II. SUMMARY OF THE FIRST CONFERENCE

Conferees representing the state water pollution control agencies of Connecticut and Massachusetts, the New England Interstate Water Pollution Control Commission, and the U. S. Department of Health, Education, and Welfare attended the first session of the conference.

---

*Reorganization has transferred the water pollution control activities from the Department of Health, Education, and Welfare, Public Health Service, to the Department of the Interior, Federal Water Pollution Control Administration.

The conferees agreed to the following conclusions and recommendations:

1. Suspended solids from sewage and industrial waste cover the Connecticut River bottom interfering with fish spawning and the development of aquatic life.
2. Sludge deposits have damaged the esthetic quality of the river due to the visible evidences of pollution such as sludge bubbling to the surface, cloudy and gray appearances of the water in the vicinity of sewage and industrial waste discharges, intermittent colors from industrial dye wastes, small grease balls, intermittent oil films, etc.
3. Cognizance is taken of the cooperation and active programs of both States and the New England Interstate Water Pollution Control Commission in abating pollution of the Connecticut River.
4. Cognizance is further taken of the fact that the main stem of the Connecticut River in the area concerned in both States was classified in 1955.
5. Massachusetts and Connecticut have indicated that their municipal pollution abatement programs call for municipal waste treatment with adequate chlorination for all municipal wastes during the recreational season, May 1 to September 15. The Massachusetts schedule is to have pollution abatement programs completed as follows:

in 1964, Montague; in 1965, Northfield, Greenfield, Holyoke, Ware, Warren; in 1966, Hatfield, Easthampton, Chicopee, Templeton, Royalston, Athol, Orange, Erving, Monroe, Buckland, Shelburne, Hardwick, Brookfield, Palmer, Monson, Wilbraham, Chester, Huntington, Russell, Westfield. Connecticut indicated that remedial facilities would not be completed for Warehouse Point until 1967. A commensurate program for abatement of pollution caused by municipal wastes will be established by Connecticut.

6. Wastes from industries and institutions in both Massachusetts and Connecticut will be incorporated with municipal treatment facilities or will be treated by separate facilities so as to meet the classification requirements of both States. Separate industrial waste treatment facilities will be constructed and placed in operation in accordance with the time schedule established for municipalities.

7. The State conferees volunteered that yearly progress reports would be prepared by Massachusetts and Connecticut in cooperation with the interstate agency and the Department of Health, Education, and Welfare. The first progress report will be due January 1, 1965.

III. AREA

The Connecticut River is the major interstate stream of the New England States. Rising in the northern tip of New Hampshire near the Canadian border, it flows south for nearly 400 miles, joining the Atlantic Ocean in Long Island Sound. It forms the boundary between New Hampshire and Vermont and travels across Massachusetts and Connecticut.

Canals have been constructed to permit navigation and to conduct water to manufacturing plants for production of power and for use in industrial processes. Other means of transportation have largely replaced navigation, but the canals still serve as sources of power and as water supplies for industries.

The major area considered at the first and second conference sessions is the 62-mile reach from Hatfield, Massachusetts, to the Rocky Hill-South Glastonbury Ferry, twelve miles below Hartford, Connecticut. Thirty-eight miles of the reach are impounded by the Holyoke and Enfield Dams, eight miles are free flowing, and sixteen miles are subject to tidal fluctuation. Also covered are portions of two major tributaries which receive sewage and industrial wastes in Massachusetts and enter Connecticut near Springfield--the Chicopee River from Wilbraham to its mouth (12.5 miles) and the Westfield River from Westfield to its mouth (11.5 miles).

Viewed from a distance, the Connecticut is a beautiful river, flowing leisurely past wooded banks and open meadows. Its quiet impounded areas invite pleasure boating, swimming, and skiing, while its free flowing reaches are a challenge to canoeists and fishermen. However, when viewed at close range, it is not always so lovely. Locally, the Connecticut River has the reputation of being a dirty, polluted stream, not fit for human contact.

Along the three streams in Massachusetts, thirteen towns, one village, and an Air Force Base discharge sewage having an estimated population equivalent of 324,000. One population equivalent may be defined as the quality of biochemical oxygen demand (BOD) contributed by one person in one day. Within the same area, nine paper mills, one textile mill, two metal working plants, three synthetic chemical plants, a rendering plant, and a brewery discharge wastes to the streams. Together, the industries have an estimated biochemical oxygen demand population equivalent of 120,000.

Along the main river in Connecticut are five jurisdictions discharging wastes having an estimated population equivalent of 218,000. Only one industry discharges a significant quantity of waste to the Connecticut River above the Hartford area--a paper mill with an estimated population equivalent of about 18,000.

The total oxygen demand population equivalent discharged to the reach under consideration is 542,000, of which industrial wastes account for 138,000.

As members of the New England Interstate Water Pollution Control Commission, Massachusetts and Connecticut in 1955 classified the water quality of the Connecticut River in the two States. At the time the classification was adopted, five of the towns along the Massachusetts reach of the river had partial sewage treatment. In the eight years between the adoption date and the first session of the Connecticut conference, three additional towns, with a sewered population of 55,500, provided treatment, and two of the original plants were rebuilt or replaced. Eight jurisdictions with a sewered population of 146,200 were still without treatment.

The Connecticut River was reclassified by the two States in June, 1967.

IV. WATER USES

This 62-mile reach of the Connecticut River is used principally for industrial water supply, recreation, power production, and waste disposal.

A. Industrial Water Supply

The Connecticut River provides such an abundance of water for industrial supply in this reach that the industries are said not to bother with records of water use. Previous attempts to assemble such data have been unsuccessful. However, the Pratt and Whitney Division, United Aircraft Corporation, at East Hartford, alone uses 720 million gallons of water per day for cooling.

B. Pleasure Boating

Pleasure boating is increasing in popularity as a water sport but has not developed on the Connecticut River as rapidly as it has throughout the rest of the nation.

C. Fishing

Between Enfield Dam and Hartford the Connecticut River supports good populations of a variety of game and coarse fishes, but for some unexplained reason, there has been only limited angling for any type of fish other than shad. A former chief of the Division of Fisheries, Connecticut Board of Fisheries and Game, puzzled by the limited use of this excellent fishery, hypothesized that: "It may be possible that many sportsmen associate the river with gross pollution and uncleanliness and feel it unlikely to consider sport fishing in such an environment--further, that fish from the river are unfit as food." The most popular recreational use is shad fishing during the spring run (late April through early June) of this anadromous fish. Fortunately, adult shad, which are intolerant of poor water quality, ascend the river when flows are high and are, thus, not subjected to the most critical effects of pollution.

D. Swimming

Only one bathing beach was found in this 62-mile reach, although swimming undoubtedly does take place throughout its length on an unorganized basis.

E. Skiing

Water skiing has not become popular as rapidly along the Connecticut River as it has on other waters, but there has been a start, and its popularity will undoubtedly increase.

F. Commercial Fishing

Commercial shad fishing is permitted in the Connecticut River in Connecticut but not in Massachusetts. During the ten-year period from 1953 through 1962, commercial fishermen netted an average of 98,200 shad yearly.

G. Navigation

Navigation on the Connecticut is limited to the tidal reach of the river below Hartford. Several oil barges make the trip from Long Island Sound to Hartford each day, and some of the coal used for thermal power production in Hartford is transported by water.

H. Hydropower

It is said that the entire flow of the Connecticut River during low flow periods is used two to three times over for power production. The principal hydropower use is at Holyoke and Windsor Locks. During periods of low flow, the entire flow of the Connecticut River, with the exception of about 200 cfs of leakage, is retained by the Holyoke Dam on Saturdays and Sundays, seriously affecting waste disposal in the Enfield impoundment.

V. POLLUTION ABATEMENT NEEDS

Major pollution sources, municipal, industrial, and governmental, are shown in Table 1. Also given in Table 1 are: the type of waste--combined or separate sewers for municipalities, or type of product for industries; the population equivalent of BOD discharged; the treatment existing at the time of the first conference (December, 1963); the present status of compliance by the polluter with the Secretary's recommendations following the first conference; the existing treatment (September, 1967); and the treatment required under the Water Quality Standards adopted by the States of Massachusetts and Connecticut. The Massachusetts standards were approved by the Secretary of the Interior under provisions of the Federal Water Pollution Control Act. The time schedule is contained in Table 2.

Of the thirty-eight polluters listed in Table 1 (thirty-two in Massachusetts), only five are in compliance with the Secretary's recommendations following the first conference. All five are in Massachusetts. Seventeen polluters still have no waste control facilities at all. Additional or new facilities are needed by all of the polluters listed in Table 1.

TABLE 1

WATER POLLUTION CONTROL NEEDS
CONNECTICUT RIVER AND TRIBUTARIES

...tfield, ...assachusetts, to ...rtford, ...onnecticut

SOURCE	RECEIVING STREAM	TYPE OF WASTE	POPULATION EQUIVALENT DISCHARGED	1ST CONFERENCE EXISTING TREATMENT	1ST CONFERENCE COMPLIANCE W/ SECRETARY'S RECOMMENDATIONS	2ND CONFERENCE EXISTING TREATMENT	2ND CONFERENCE REQUIRED TREATMENT
MASSACHUSETTS							
Hatfield	Mill River	Combined	1,300	None	No	None	Secondary & Cl
Amherst	Connecticut River	Separate	7,000	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Northampton	Connecticut River	Separate	17,700	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Easthampton	Connecticut River	Separate	7,600	Primary & Cl	Yes	Primary & Cl	Secondary & Cl
Mt. Tom	Connecticut River	Separate	200	None	No	None	Secondary & Cl
South Hadley	Connecticut River	Combined	4,000	Primary	No	Primary	Secondary & Cl
Texon, Inc.	Connecticut River	Paper	400	None	No	None	Equiv. Second.
Holyoke	Connecticut River	Combined	41,000	None	No	Partly None, Partly Primary	Secondary & Cl
Brown Paper Co.(2)	Connecticut River	Paper	17,000	None	No	None	Equiv. Second.
Chemical Paper Mfg. Co.(3)	Connecticut River	Paper	(3)	(3)	(3)	(3)	(3)
Franklin Paper Co.	Connecticut River	Paper	1,000	None	No	None	Equiv. Second.
Valley Paper Co.	Connecticut River	Paper	3,600	Save-Alls	No	Save-Alls	Equiv. Second.
Whiting & Co.	Connecticut River	Paper	3,760	None	No	None	Equiv. Second.
West Springfield	Connecticut & Chicopee Rivers	Combined	17,000	None	No	Partly None, Partly Primary	Secondary & Cl
Fremont Corp.	Westfield River	Paper	3,600	None	No	None	Equiv. Second.
Strathmore Paper Co.	Westfield River	Paper	30,400	Save-Alls	No	Save-Alls	Equiv. Second.
Southworth Co.	Westfield River	Paper	600	Save-Alls	No	Save-Alls	Equiv. Second.
Springfield	Connecticut River	Combined	19,000	Primary	No	Primary	Secondary & Cl
Shawinigan Resins Corp.	Chicopee River	Chemical	24,600	None	No	None	Equiv. Second.
Thai Dyeing Co.	Chicopee River	Wool Dyeing	22,300	None	No	None	Equiv. Second.
Monsanto Chemical Co.	Chicopee River	Chemical	10,600	Phenol Recovery	No	Phenol Recovery	Equiv. Second.
Agawam	Connecticut River	Separate	10,200	Primary	Yes	Primary	Secondary & Cl
Longmeadow	Connecticut River	Separate	4,400	Primary	No	Primary	Secondary & Cl
Chicopee	Chicopee River	Combined	4,500	None	No	None	Secondary & Cl
Westover Air Force Base	Chicopee River	Separate	6,100	Primary	No	Primary	Secondary & Cl
Springfield Rendering Co.	Connecticut River	Rendering	6,000	Flotation	No	Flotation	Equiv. Second.
Hampden-Harvard Breweries	Connecticut River	Brewery	2,500	None	No	None	Equiv. Second.
U. S. Rubber Co.	Chicopee River	Synthetic Rubber	2,360	None	No	None	Equiv. Second.
Westfield	Westfield River	Combined	15,000	None	No	None	Secondary & Cl
Foster Machine Co.	Westfield River	Machining	—	None	No	None	Equiv. Second.
Stevens Paper Mills, Inc.	Little River	Paper	10,000	None	No	Save-Alls	Equiv. Second.
Columbia Mfg. Co., Inc.(4)	Little River	Metal Plating	—	None	No	None	Equiv. Second.
E. Longmeadow	Pecousic River	Separate	1,250	Secondary & Cl (Inadequate)	Yes	Secondary & Cl (Inadequate)	Secondary & Cl
CONNECTICUT							
Enfield							
Thompsonville	Connecticut River	Separate-Combined	7,700	Primary	No	Primary	Secondary & Cl
E. Windsor							
Warehouse Point	Connecticut River	Separate	2,100	None	No	None	Secondary & Cl
Windsor Locks	Connecticut River	Separate	7,100	Primary	No	Primary	Secondary & Cl
C.H. Dexter & Sons, Inc.	Connecticut River	Paper	13,300	None	No	None	Equiv. Second.
Hartford	Connecticut River	Combined	177,700	Primary	No	Primary	Secondary & Cl
E. Hartford	Connecticut River	Separate	53,400	Primary	No	Primary	Secondary & Cl

1. ...ulation Equivalent.
2. Took over American Writing Paper Corporation.
3. Went out of business in 1966.
4. Formerly the Westfield Manufacturing Company.
5. Includes municipal waste from Bloomfield, Newington, West Hartford, Wethersfield and Windsor and industrial wastes.

A-10

TABLE 2

COMPLIANCE DATES CONTAINED IN THE MASSACHUSETTS STANDARDS

SOURCE	DATES					
	Preliminary Report & Plans	Appropriation of Funds	Acquisition of Site	Complete Final Plans	Start of Construction	Completion of Construction
Hatfield	Completed	9/67	10/67	4/68	6/68	6/69
Amherst	1/72	3/72		1/73	3/73	3/74
Northampton	1/72	3/72		1/73	3/73	3/74
Easthampton	Completed	6/67	Own	4/68	6/68	9/69
Mt. Tom	Completed	6/67		4/68	6/68	9/69
South Hadley	1/72	3/72		1/73	3/73	3/74
Texon, Inc.	11/69			12/70	3/71	3/72
Holyoke--Project #1	Completed	9/67	Own	5/68	7/68	7/69
--Project #2	Completed	5/69		3/70	5/70	5/71
Brown Paper Co	7/69			3/70	5/70	5/71
Franklin Paper Co.	7/69			3/70	5/70	5/71
Valley Paper Co.	7/69			3/70	5/70	5/71
Whiting & Co.	7/69			3/70	5/70	5/71
West Springfield--Project #1	Completed			12/67	3/68	12/68
--Project #2				1/73	3/73	12/74
Premoid Corp.	Completed			12/67	3/68	12/68
Strathmore Paper Co.	Completed			12/67	3/68	12/68
Southworth Co.	Completed			12/67	3/68	12/68
Springfield--Main Plant	1/72	3/72	4/72	1/73	3/73	12/74
--Indian Orchard Plant	9/69	12/69	Own	3/71	5/71	5/72
Shawinigan Resins Corp.	11/69			12/70	3/71	3/72
Thai Dyeing Co.	11/69			12/70	3/71	3/72
Monsanto Chemical Co.	11/69			12/70	3/71	3/72
Agawam	1/72	3/72	4/72	1/73	3/73	6/74
Longmeadow	1/72	3/72	4/72	1/73	3/73	6/74

Table 2 (Continued)

SOURCE	DATES					
	Preliminary Report & Plans	Appropriation of Funds	Acquisition of Site	Complete Final Plans	Start of Construction	Completion of Construction
Chicopee--Project #1					6/67	1/69
--Project #2				1/68	3/68	1/69
--Project #3	7/68			7/69	9/69	12/70
Westover Air Force Base					3/68	1/69
Springfield Rendering Co.	1/69			9/69	11/69	12/70
Hampden-Harvard Breweries	1/69			9/69	11/69	12/70
U. S. Rubber Co.	1/69			9/69	11/69	12/70
Westfield		9/67	10/69	5/68	7/68	7/70
Foster Machine Co.	9/67			5/68	7/68	7/70
Stevens Paper Mills, Inc.	9/67			5/68	7/68	7/70
Columbia Mfg. Co., Inc.	9/67			5/68	7/68	7/70
East Longmeadow	1/72	3/72	4/72	1/73	3/73	6/74

A-12

* U. S. GOVERNMENT PRINTING OFFICE : 1968 O - 288-888